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Boston University
Graduate School
Thesis

An Exposition and Criticism of the Philosophy of Bertrand Russell

by

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(A.B. DePauw, 1929)

submitted in partial fulfillment
of the requirements for the
degree of Master of Arts

1931

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FOREWORD

This thesis covers only the epist~~l~~emology and metaphysics of Russell, not his ethical philosophy. My chief aim has been to give a clear exposition of Russell's theories of mind and reality. The criticism does not pretend to be exhaustive, but suggestive and general. Much of Russell is too technical for me to follow and that, of course, is not included in this thesis.

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Motor Cop (to professor of mathematics):

"So you saw the accident, sir? What was the number of the car that knocked this man down?"

Professor:

"I'm afraid I've forgotten it. But I remember noticing that if it were multiplied by fifty, the cube root of the product would be equal to the sum of the digits reversed."

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CHAPTER I

Logic, The Essence of Philosophy

Everyone knows that to read a man's philosophy for the express purpose of refuting it is a poor way to understand it; and without understanding there can be no intelligent criticism. Therefore, we shall be concerned first with the general exposition of Russell's philosophy, following this with a criticism. Even the casual reader of Russell's works will be impressed with at least four motives, all interrelated, that dominate the philosophy throughout. These are: (a) The reaction against absolute idealism in particular and value-philosophies in general; (b) the scientific method; (c) logic; (d) and, what amounts to the same thing, mathematics. Let us consider these in order.

Along with the rise of modern science has come the reaction in philosophy against the careless and dogmatic absolutism of arm-chair philosophers. The spirit of young America is no better reflected than in the philoso-

phies of Pragmatism, Instrumentalism, Behaviorism and Neo-Realism. Russell may be classed as a Neo-Realist, although his particular variety puts him in a class by himself. He was reared, we may gather, on what was most objectionable in the old religious orthodoxy, contrary to the wishes of his own father, a "free-thinker" who died while Russell was yet young. (1) We find Russell emerging, however, an able scholar and keen mathematician. His intellectual appetite has since demanded a diet of unusual breadth, ranging from Socialism and China to abstract physics and mathematical logic. Hocking says that his "serious" work was done in symbolic logic, having in mind, no doubt, his "Principles of Mathematics," written in collaboration with Whitehead. According to Russell, philosophy has in the past been motivated by religious and ethical ideals. It is now time to discard our egotism and find the objective truth which is beyond and above human desires and hopes. With his passion for disinterested and verified scientific "truth" and his rabid reaction against all that is associated with the word "religion", it is to be expected that Pragmatism, Intuitionism, and especially Idealism, whether of the absolute or personalistic sort, find no sympathy with Russell. Their logic is faulty and their metaphysics anthropomorphic. The very notion of a "system" or "universe" is "pre-Copernican" and belongs upon the rubbish-heap along with

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(1) Bertrand Russell, Skeptical Essays, pp. 152-3.

many of our other pet superstitions. Science is "piecemeal"; it discovers truth bit by bit and is throughout impartial and empirical. The external world, objective reality, has no more relation to our hopes and dreams than my buying a meal has to the signing of the Declaration of Independence. To make mind, or soul, the key to reality is a bit of anthropomorphic impertinence. The sciences and the scientific method are the highroad to reality; Idealism has a certain imaginative and historical value, but must now be discarded.

Granted that philosophy must become scientific, we note two respects in which this must be realized. In the first place, philosophy must adopt the method of philosophy as opposed to its particular results. It is the major mistake of Evolutionism that it adopts the results of one isolated branch of science. The broad generalizations of science are most apt to be erroneous. Evolutionism suffers from two limitations: it selects from the universe a small fraction of the total facts which happen to be "confined to an infinitesimal fragment of space and time" (the earth) and universalizes them as though they had cosmic significance. And in the second place it introduces an ethical notion, "progress". The world of fact knows no such thing as "progress".

The second respect in which philosophy must become a science is what may be called disinterested objectivity.

The one desire that the philosopher may retain is the desire for objective truth. If any other interest of motive is permitted to intrude, the outcome will be partial and warped. This is where logic enters as the high priest of philosophy. In his essay entitled "Mysticism and Logic" (1) he says that while mysticism is permissible as an attitude toward life, logic alone is the valid way of knowing the truth about life. Man's softer nature, his hopes and visions, his longings and dreams, are all well and good so long as we do not make them a way of insight into reality. Only the pure cold light of the intellect may be trusted to know the truth, and the truth that is thus attained will not be spelled with a capital T. (2) Intuitions and revelations lead to a "morass of illusion"; they lack that "largeness of contemplation", that freedom "from the tyranny of practical desires" which must characterize the philosopher. Scientific philosophy is something arduous and aloof, far-removed from petty and mundane affairs. Once transported to the clear cold air of intellectualism we no longer regard the world which we inhabit through "the distorting medium of our own desires". Here we man our minds with the implements of logical forms and mathematical certainties which are true whether a mind thinks them or not. Here we approach the realm of the eternally necessary.

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(1) Mysticism and Logic, pp. 1-32.

(2) Philosophy, p.254. "It is not from the logician that awe before truth is to be expected."

"The scientific attitude of mind involves the sweeping away of all other desires in the interest of the desire to know; it involves the suppression of hopes and fears, loves and hates, and the whole subjective emotional life, until we become subdued to the material, able to see it frankly, without bias, without any wish except to see it as it is. (1) "Mind, or some aspect of it--thought or will or sentience--has been regarded as the pattern after which the universe is to be conceived, for no better reason at bottom than that such a universe would give us a cozy feeling that every place is like home." (2) Such questions as optimism and pessimism, God and immortality, are outside the scope of the philosopher, "except possibly to the extent of maintaining that (they are) insoluble." (3)

In view of what has been said regarding the nature of philosophy conceived as a science, it is difficult to tell where the passionate intellectualism of Russell ends and his mysticism begins. We get here a clue to the personality of the man. He reminds us of Spinoza, except that he is not so consistent. Rogers is worth quoting in this connexion.

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(1) Mysticism and Logic, p. 44.

(2) Ibid.

(3) Ibid., p.99.

For Russell, as for Spinoza, philosophy is the austere vision of eternal truth, majestic in its isolation from man's paltry life. It is not the vision even of man's earthly residence, but the unchanging bonds of logical implication, which are as sublime and perhaps more interesting in their novelty, when they are the outgrowth of assumptions that have no apparent pertinency to the world of empirical fact. To this world and to man's temporal life within it, there can belong little to satisfy our aspirations. (1)

What, then, we may ask, is left to philosophy if it is so drastically limited? The answer is that logic is left as the sole survivor. The question of the nature of Russell's logic will be taken up in greater detail shortly. Here I wish only to indicate broadly how it works as a motive in Russell's system. As opposed to the conflicting opinions of philosophical systems of the past, the new logic, which is essentially mathematics, has, or seems to have, an independent certaintity about it that commands admiration. In a world of ignorance, maladjustment, strife and conflict it is a relief to turn to the realm of mathematics where human passions do not figure. Logic is the "science of the possible". It holds true for all possible worlds. "The philosophy I wish to advocate may be called logical atomism or absolute pluralism, because while maintaining that there are many things, it denies that there is a whole composed of these things. We shall see, therefore, that philosophical propositions, instead of being concerned with the whole of things collectively, is concerned with all things distributively; and not only must

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(1) Arthur Kenyon Rogers, English and American Philosophy Since 1800, pp. 429-30.

they be concerned with all things, but they must be concerned with such properties of all things as do not depend upon the accidental nature of the things that there happen to be, but are true of any possible world, independently of such facts as can only be discovered by our senses. (1)

Broadly speaking, logic has two parts. On the one hand it is concerned with such propositions as hold good for everything in general without mentioning any particular predicate or relation. For example, if A equals B and B equals C, then A is equivalent to C. On the other hand, logic is concerned with the enumeration of logical forms; i.e. "with the various kinds of propositions that may occur with various types of facts, and with the classifications of the various facts. (2)

Philosophy, therefore, is essentially a matter of logic. And logic provides us with an inventory of a great number of possible and abstractly tenable hypotheses. It thus is more interested in analysis than synthesis. Philosophy in the past has suffered from this very lack of ability to begin at the bottom, on the basis of pure logical form. The tremendous advantage of the new logic will be seen especially in dealing with such problems as the nature of time and space and perception. It cannot boast of quick results, but will be patient and piecemeal.

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(1) Mysticism and Logic, p. 112.

(2) Ibid.

The mathematical interest might be called a form of the logical, or vice versa. The two subjects have a common basis in certain fundamental postulates. That is to say, the whole of mathematics can be deduced from five fundamental postulates or maxims. The difference between mathematics and logic is in the directions of their development. This theme is enlarged upon in the first part of Russell's "Mathematical Philosophy", published in 1920. All pure mathematics is a priori. When we once see that two and two are four, fresh instances of it do not add to our certainty of the truth of the proposition. Thus mathematics is not entirely dependent upon the principle of induction, since after particular instances of the fact "two and two equal four" have been observed, further instances do not strengthen our belief in that fact. Moreover, the principle of induction itself cannot be proven by experience. (1) In fact, the truths of mathematics must "apply to things equally whether we think of them or not."

Russell betrays his enthusiasm for mathematics in an essay entitled "The Study of Mathematics". (2) For instance, we learn that the "solution of the difficulties which formerly surrounded the mathematical infinite is probably the greatest achievement of which our own age

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(1) Bertrand Russell, The Problems of Philosophy, p.131.

(2) Mysticism and Logic, pp. 58-74.

has to boast." (1) Mathematics comes in for more praise than logic; but when the two are fused into mathematical logic we have an ideal combination, which, when applied in the field of philosophy, permits that escape into the realm of truth for which every true philosopher longs. "Real life is to most men a long second-best, a perpetual compromise between the ideal and the possible; but the world of pure reason knows no compromise, no practical limitations, no barrier to the creative activity embodying in splendid edifices the passionate aspiration after the perfect from which all great work springs. Remote from human passions, remote even from the pitiful facts of nature, the generations have gradually created an ordered cosmos, where pure thought can dwell as in its natural home, and where one, at least, of our nobler impulses can escape from the dreary exile of the actual world." (2) These eloquent words help us to appreciate Russell and his passionate extravagances to which the logico-analytic method lead him.

We may properly add a paragraph at this point by way of summarizing Russell's conception of philosophy. Sheldon well states it:

> It is a 'static' or non-temporal world, cut off from transeunt detail and to be investigated for its own sake, that we are asked to believe in. Not the application to concrete problems--why empirical space has

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(1) Ibid., p.64.

(2) Ibid.

three dimensions, time but one, why there is life, etc.,--nor to any material utility: these would degrade philosophy. It is the adoration of the ideal, unmovedness, ataraxia. Says a prominent defender of universals: "Philosophy is a study apart from the other sciences: its results cannot be established by the other sciences, and conversely must not be such as some other science might conceivably contradict. Prophecies as to the future of the universe, for instance, are not the business of philosophy: whether the universe is progressive, retrograde, or stationary, is not for the philosopher to say." (Bertrand Russell, Scientific Method in Philosophy, pp. 236-237). "Between philosophy and pure mathematics there is a certain affinity, on the fact that both are general and a priori. Neither of them asserts propositions which, like these of history and geography, depend upon the actual concrete facts for being just what they are." (op. cit., p. 186). (1)

Russell, then, might be called an intellectual mystic. In his rebellious and reactionary attitude toward what has become established, whether in morals or philosophy, we find a contemptuous, if not hostile, sneer. In his devotion to the marvels of science, especially physics, we have the epitome of the age enamoured of its achievement. In logic and mathematics, where Russell has made substantial contributions, we see his passion for the independent, the obective and the eternally true, which, when fused with a fervid emotional nature, becomes a cold mysticism, not without an austere nobility.

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(1) Wilmon Henry Sheldon, op. cit., p. 224.

CHAPTER II

Analysis of Mind

One of Russell's most substantial contributions to philosophy is his "Analysis of Mind", first published in 1921. The purpose of the book is to defend the thesis that all mental phenomena are ultimately reducible to sensations and images, and that the latter are in turn made up of sensations. All mental events of which we can think are reducible to sensations, images and their relations. (1)

Traditional psychology has assumed that mental events, such as thoughts, beliefs and perceptions, are to be explained by a subject, "self", which sustains a relation to an outside object. In perception, it has held, we have an act, content and object. I perceive a table which is an act, the table exists in my mind as content and is related to the external object, table. This traditional view is erroneous, however, for two

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(1) p. 279.

reasons. First, it assumes illegitimately the existence of a subject, "self", which is supposed to be possessed of a peculiar mental stuff called "consciousness"; and secondly, it seems that the act of perception is fictitious. "Consciousness" and "self" are not empirically discoverable and the act is neither discoverable nor analytically necessary. Moreover, the object is not the simple direct thing that common sense supposes it to be. What we call the "object" is purely derivitive; i.e. it consists in beliefs that "what constitutes the thought is connected with various elements which together make up the physical object." (1) Present-day Realism, in its analysis of mind, has suppressed the content in favor of the object, holding that we know objects directly in sensation, memory and thought. Idealism, on the other hand, has suppressed the object in favor of the content, holding that all we can know is mental in character. For reasons which will emerge later on, Idealism is untenable. Realism is tenable in respect to sensation but falls down in its account of images and memory. In memory, for example, it is absurd to say that the past event is really present in the act memory, just as a memory of a meal we ate yesterday will not gratify our hunger today. As regards sensation, then, Russell is a Realist; for, "there seem to me no valid grounds for regarding what we see and

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(1) Ibid., p. 18.

hear as not part of the physical world." (1)

It is when we come to the consideration of images that Realism of the sort that Russell rejects is seen to be inadequate. Any fair consideration of memory will drive us to the conclusion that there are events that are purely mental. To completely objectify our account of the mind fails to explain much in our mental life. It is only in the case of sensation that we may be said to know directly the external world. James, in his "Concept of Consciousness" first pointed out that consciousness is not an entity; the American Realists following him have shown that reality, or rather mind and matter, are both composed of a "neutral stuff". James was right in rejecting consciousness and the American Realists are right in their doctrine of neutral monism as regards sensations, but not images .... "What is seen and heard belongs equally to physics and psychology. But I should say that images belong only to the mental world, while those occurrences (if any) which do not form part of any 'experience' belong only to the physical world. There are, it seems to me, prima facie, two different kinds of causal laws, one belonging to physics and the other to psychology. The law of gravitation, for example, is a physical law, while the law of association is a psychological law. Sensations are subject to both kinds of laws, and are therefore truly 'neutral'. But entities subject only to physical laws, or

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(1) Ibid., p.20.

only to psychological laws, are not neutral and may be called respectively purely material or purely mental. Even those, however, which are purely mental will not have that intrinsic reference to object....which constitutes the essence of consciousness as ordinarily understood." (1)

There are, then, mental events, real, purely mental, having their own unique causal laws, yet not differing intrinsically from sensations. Consciousness, nevertheless, turns out to be a bit of metaphysical superstition. The question naturally arises, therefore, how are we to think of what used to be called consciousness? In taking up Russell's views on what used to be called consciousness, we note first his affinity with behavioristic psychology. In his "Philosophy" the first part of the book deals with "Man From Without", which is to say that Russell is desirous of accepting the behavioristic interpretation of mind as far as it will take him. It is possible to give a purely descriptive and external account of perception, knowledge and memory; this Russell succeeds in doing for the most part. Behaviorism is correct when it says that to attribute minds to other people is an inference; but when it comes to doubting the existence of our own minds we resent the doctrines of behaviorism. There is no doubt in the mind of Russell that there are events we know which can be known only by

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(1) Ibid., pp. 25-6.

introspection. But, as we shall see, introspection for Russell does not quite mean what traditional psychology held. Introspection does not differ radically from what we observe externally. (1) Russell does not, with behaviorism, reject introspection, but re-interprets it to mean virtually "self-observation". As for consciousness, Russell re-defines it in his "Analysis of Mind" to mean a set of relations and later in his Philosophy it dissolves altogether under analysis and becomes merely a mental event. We may summarize his latest estimate of behaviorism: Behaviorism holds that everything that can be discovered about a man can be known by external observation. "I do not fundamentally agree with this view, but I think it contains much more truth than most people suppose, and I regard it as desirable to develop the behavioristic method to the fullest possible extent." Behaviorism takes physics for granted; but "the data from which we must start in order to get to know the rat's bodily movements are data just of the sort that Dr. Watson wishes to avoid, namely, private data, patent to self observation (introspection) but not patent to anyone except the observer. This is the point at which, in my opinion, behaviorism as a final philosophy breaks down." (2)

It will help throw light on Russell's conception of

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(1) Ibid., p.29.

(2) Philosophy, pp.70, 129.

consciousness if we consider for a moment his discussion of the "unconscious", which is one of his minor reasons for rejecting the traditional view of consciousness. Desire has been considered one of the most mental of all events and yet (a) many desires have been shown by the psychoanalysts to be "unconscious"; (b) a so-called conscious desire differs from an unconscious desire only in the presence of the appropriate words, "which is by no means a fundamental difference." (1) "Desire, like a force in mechanics, is of the nature of a convenient fiction for describing shortly certain laws of behavior." (2) As is shown by the fact that we often attribute desires and motives to our actions that are subsequently unsubstantiated, desire is best defined as "what satisfies" and not something that we hold in the mind. Desire is merely a tendency of behavior. There is no mystery about it. Therefore, however we may define consciousness IT IS CERTAINLY NOT THE ESSENCE OF MIND. In fact, when the word is used at all it will be used "as a trivial and unimportant outcome of linguistic habits."

Consciousness thus dissolves, although later on Russell says that we must "be conscious of something" and defines it "in terms of that relation of an image or word to

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(1) Analysis of Mind. p.31.

(2) Ibid., p.32.

an object, which we defined as 'meaning' " (1). In other words we have essentially a relational view of consciousness. But in his "philosophy" it seems that he abandons this view. Here he states that there are two ways of defining consciousness, as a peculiar quality, a "quality of mental occurrences"; or as a relation. In his consideration of the first type he finds reasons for rejecting the second. "It follows that 'consciousness' cannot be defined either as a peculiar kind of relation or as an intrinsic character belonging to certain events and not to others." For all we know mental events are not unlike events in the outside world. "But what makes us call a certain class of events mental and distinguish them from other events is the combination of sensitivity with associative reproduction. The more markedly this combination exists, the more 'mental' are the events concerned; thus mentality is a matter of degree....Thus 'mental events' will be certain of the events that occur in heads that have brains. (2)

Mind, then, is a complex of related sensations that happen to appear in a nervous system, particularly a brain. "I believe that sensations (including images) supply all the 'stuff' of the mind, and that everything else can be analysed into groups of sensations related in various ways,

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(1) Analysis of Mind, p.288.

(2) Philosophy, pp.210, 214-15.

or characteristics of sensations or groups of sensations."(1) Since this sort of complex differs from others mainly in its power to associate and remember, we shall do well to examine more closely this power.

The distinguishing characteristic of mind is its possession of mnemic powers. Mnemic phenomena are those which occur in me according to the laws of mnemic phenomena; "we might, in fact, define one chain of experience, or one biography, as a series of occurrences linked by mnemic causation. I think it is this characteristic more than any other that distinguishes sciences dealing with living organisms from physics." (2)

Mnemic phenomena are "those responses of an organism, which, so far as hitherto observable facts are concerned, can only be brought under causal laws by including past experiences in the history of the organism as part of the causes of the present response." (3) That is to say, the present state of the organism alone cannot account for the nature of its present response. If a complex stimulus A causes a complex reaction B, the occurrence in the future of a part of A will bring forth the whole response B. A,B,C in the past, together with X now cause the response Y. A,B,C is the mnemic cause; X is the present stimulus

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(1) Analysis of Mind, p.67.

(2) Ibid., p.83.

(3) Ibid., p.78.

and Y the response. The influence of past history thus persists in the form of what might be called a "disposition"; but we must not understand by "disposition" something actual. It is merely a mnemic portion of a mnemic causal law.

Although Russell is not at present willing to comit himself, it is highly probable that in the future mnemic phenomena will be explicable by nerve modifications in the brain. This cannot be proven. Nevertheless, Russell virtually assumes that it is proven and adopts it as a working hypothesis. If all the facts were known, if science were far enough advanced, it would be plain that thought consists in certain changes in the brain structure. The "engram" theory has Russell's support though he prefers to describe such phenomena causally, using the words "mnemic causation" instead. At the present state of knowledge it is the only way of taking care of such things as images and memory. The "engram" theory, however, is given plausibility by the following two considerations: (a) Physiological habit-associations are noted in plants; (b) brain lesions cause the loss of memory. Another consideration, which Russell affirms as true, is that in the scale of evolution there is no wide gap either mentally or organically. Throughout mental evolution there is a continuous gradual development. Due to this mental developmental continuity we can learn much about man by studying rats. True, there is much to be learned by introspection; but as a method,

observation is to be prefered to introspection. But by observation nothing of the nature of "will" or "consciousness" is meant. What we call reflex and voluntary movements are on the same plane of meaning for the observer; both kinds may be called vital movements. The distinction between vital and purely mechanical movement is that in the first place stored energy at stable equilibrium is set at unstable equilibrium by some proximate cause, as when a cap sets off some dynamite; in the case of mechanical movement, on the other hand, we have not stored energy set in motion, but mere change of location. An instinct operating is a case of vital movement; a stone rolling down hill is an example of mechanical movement. (1)

We have now seen that while sensations may be regarded as part of the physical world images cannot, in the present state of knowledge, be accounted for except by mnemic causation; and that we must in some sense depend upon introspection to complete our knowledge of the mind. We must now state briefly the nature of introspection.

Before defining introspection, we shall need to anticipate a few points by way of preliminary remarks. In the first place, what we call a physical object is to be thought of as a "system of particulars" analogous to sensations and becoming sensations only as they enter a head with a brain in it. But images are not essentially different from sen-

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(1) Analysis of Mind, pp. 41-7.

sations; the difference is wholly one of antecedent causation; i.e. images are caused by sensations or association with sensations and not by "external sensations". A clap of thunder, for example, causes sensations in a number of people and these sensations are capable of correlation; but images are private in the sense that they cannot be correlated with the images of other people. Images are "private". Yet mind is possessed of no attribute "which makes it impossible of forming a part of the world of matter." Sensations and images differ only in their respective contexts. Intrinsically there is no profound difference between the two. An image is merely a copy of a sensation that happens to be less capable of wide correlation. (1)

We can now see that images offer us no drastically separate way of knowing. It follows that introspection as a peculiar form of knowing disappears. We may ask three questions, the answers to which will bring out the true nature of introspection. First, can we observe anything about ourselves, that other people, even if suitably placed,

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(1) In his Philosophy, Russell says that thought is real in the sense that even if we had a complete knowledge of physics, we could not explain away thought (p.175). I have trouble in reconciling this with the statement above to the effect that there is nothing in mind incapable of making it a part of the world of matter. Either reality is to be identified with "matter" in which case thought would not be "real" or else a theoretically complete knowledge of physics would account for thought, a fact which Russell denies. The doctrine of neutral monism leaves us in doubt as to the sort of reality thought possesses. This will be criticised later.

could not observe; or is everything public in the sense that others could observe it theoretically? Answer: "I think that some things we observe can not, even theorecitally, be observed by anyone else." But publicity is a matter of degree. For example, a tooth ache is privage because it gives us knowledge of our own bodies; a clap of thunder is more public. It is the fact that sensations are public and capable of being correlated that permits of their being scientifically treated. (1)

Secondly, does everything we can observe obey the laws of physics and form a part of the physical world, or can we observe certain things that lie outside physics? Answer: "I think that images, in the actual conditions of science, cannot be brought under the causal laws of physics, though perhaps ultimately they may be," But even if we did possess such knowledge, images would still differ in their proximate causal laws. (2)

Thirdly, is it possible to observe anything which differs in its intrinsic nature from the constituents of the physical world, or is everything that we can observe composed of elements intrinsically similar to what we erroneously call "matter"? Answer: "I should answer adversely to introspection; I think that observation shows us nothing that is not composed of sensations and images,

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(1) Analysis of Mind, p. 117f.

(2) Ibid., p. 121.

and that images differ from sensations in their causal laws, not intrinsically." (1)

The physical world is, in turn, made up of elements very similar to sensations; hence there is no gap between the so-called "mental" and the so-called "physical worlds and mind and matter meet on a common plane of "neutral entities". "I contend that the ultimate constituents of matter are not atoms or electrons.....but sensations and other things similar to sensations as regards extend and duration. As against the view that introspection reveals a world radically different from sensations (and other things similar to sensations), I propose to argue that thoughts, beliefs, desires, pleasures, pains and emotions are built up out of sensations, and that there is a reason to think that images do not differ from sensations in their intrinsic character. We thus effect a mutual reapproachment of mind and matter, and reduce the ultimate data of introspection to images alone." (2)

Introspection in the old sense of the word thus disappears and we have instead merely the occurrences of mental events which we can observe in much the same manner as we observe a table, except that the table as a physical object can be correlated with a public space. In fact, all knowledge rests on something analogous to introspection and

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(1) Ibid., p. 117.

(2) Philosophy, p. 173.

the difference between it and external observation is one of the degree of correlation possible.

We may appropriately ask in this connection, Do we think? Russell prefers to answer this question by putting it in this form: Do we know events in us which would not be included in an absolutely complete knowledge of physics?" By a complete knowledge of physics is meant "the distribution of energy throughout space-time." Put in this fashion, it is clear that we do know events in us that would not be included in an absolutely complete knowledge of physics. A blind man could know physics but he could not know what things look like to those who have their sight. Dreams, also, must count as thought in the sense that they lie outside physics; they may be accompanied by movement, but knowledge of movement is not the same as knowledge of the dreams themselves. "On these grounds I hold that self-observation can and does give us knowledge which is not a part of physics, and that there is no reason to deny the reality of 'thought.'" (1)

We come now to consideration of causal laws. As we have seen, they are the only distinguishing mark between the world of psychology and the world of physics. What are these causal laws?

First we must do away with the old anthropomorphic conception of cause as force or compulsion. We say that

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(1) Ibid.,p.175. The question as to whether introspection in the above sense reveals relations that differ from the relations revealed by external perception is unanswered. See Analysis of Mind, p.123.

in driving a golf ball we cause the ball to travel through space, but this is a prejudice due to the fact that we experience strains and tensions of muscles. All we have a right to say is that certain events usually follow one another. There is not even a "necessary" connexion in the sequence of events. The old notion that A is necessarily followed by B has to be replaced by the notion of "general direction of change." Just as in physics "force" is a fiction, a short-hand description of what takes place, so cause is a term applied to certain general correlations of events. "Things happen according to certain general rules; the rules can be generalized, but in the end remain brute facts. Science gives us approximate generalizations, merely general tendencies that have varying degrees of probability. A will be followed by B, probably, if nothing else intervenes in the meantime. Causal laws thus lack that necessity, universality and uniqueness that has in the past been attributed to them. Out of a number of concomitant antecedents we select one as the cause. Science is concerned not so much with what must happen, but with what happens. There are no invariable rules of sequence; scientific laws can be expressed only in differential equations. That is, although you cannot say what will happen in a given finite time, if you shorten the time, your prediction will approach definiteness without limit. In traditional physics we had the laws of velocity and acceleration. In a short time the velocity of a body alters very

little and if the time be progressively shortened, the change in velocity diminishes without limit. This is what is called an "intrinsic causal law"; it enables us to speak of a string of events as a piece of matter when they are causally connected. In traditional dynamics it was found that the small bit of change in the velocity of a body varied as the bodies around it, which were said to exert "force" upon the first body, varied. Thus we were led to speak of the "force" that one body exerts upon another. But it all remains as mysterious as ever. We must, therefore, substitute for laws of force, laws of correlation. "This was all that was true in the old notion of causality. And this is not a 'postulate' or a 'category', but an observed fact--lucky, not necessary.(1)

It has been customary to assume when several people see a table there is a single object "table" which is the cause of all their perceptions. But the notion of cause is not so reliable as to allow us to indulge such a prejudice. A persistent entity is by its very nature unobservable; science can neither assert nor deny it; it is beyond the warrant of experience to do so. What we should say, in the above instance, is that the whole set of perceptions or sensations, as collected together and correlated, constitutes the table. These aspects, or perceptions or sensations, or "particulars", together with such correlated

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(1) Philosophy, pp. 114-20.

others as are unperceived, jointly, ARE the table. A similar definition applies to all physical objects. (1) Given a system of particulars, one of the particulars, which is in a given place, is called an "appearance" of the system, or what common sense would call the physical object. In case the object changes, the cause must be either in the medium intervening between the object and the brain, or else the aspects must all undergo a connected change. To illustrate, a man is in my room and I see him. If I close my eyes so that I see only a blurr, it is a change of the first type. If the man leaves the room, it is a change of the second kind. It is the fact that most change is of the second type that enables us to treat the man as a single object and not as a system of appearances.(2)

In the light of what has just been said, we may now state one of the fundamental differences between psychology and physics. "Physics treats as a unit the whole system of appearances of a piece of matter, whereas psychology is interested in a certain of these appearances themselves;---- we might define them (appearances) as the appearances of objects at places from which the sense organs and the suitable parts of the nervous system form a part of the intervening medium----Just as the photographic plate receives a certain impression of stars when a telescope is the intervening medium, so the brain receives impressions through

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(1) Analysis of Mind, p.99.

(2) Ibid., p.103.

the eyes, ears, etc., as intervening media....An impression due to this sort of intervening medium is called a perception and is interesting to psychology on its own account, not merely as one of the set of correlated particulars which is the physical object of which (as we say) we are having the perception." (1)

We are now in a position to make a few necessary definitions and then state precisely what perception is. Particulars may be grouped into "things" and "biographies". The "thing" is the system of particulars or group of all the aspects, perceived and unperceived, which would commonly be said to belong to the thing. The whole class of particulars, which IS the "thing" at any given moment, though each differs slightly from the other, is a continuous class capable of being correlated according to the laws of perspective. A "biography", on the other hand, is the series of successive momentary states of the "thing" which appear at a given place ("place" to be defined later), and which are likewise correlated into successive changes by the law of dynamics, just as the system of particulars or appearances, were correlated by the laws of perspective. A rough analogy would be where an actor on the stage appears to a number of spectators and where the same actos is seen throughout a finite time by a single spectator. In the first instance we would have a group of aspects, which taken

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(1) Ibid., p. 105.

together, and correlated with all the aspects, perceived and unperceived, constitutes the actor. In the second instance the same actor appears to the spectator in successive momentary "flashes", just as a moving picture camera reflects a vast number of quick successive photographs. It is some such arrangement of the particulars as the latter case suggests that give us what is called a "biography". My "biography" then,would be a set of particulars that are before or after or simultaneous with any given sensation, a sensation being, we remember, a particular that happens to occupy my private world. What transforms a biography into a life or a person is the fact of mnemic phenomena. Sensativity plus associative reproduction transforms mere occurrences into experience. (1)

When I look at a star my sensation is:

(a) A member of a group of particulars, which IS the star, and which is associated with the place where the star (as we say) is.

(b) A member of a group of particulars which IS my biography, and which is associated with the place where I am. (2) We have, therefore, what is called the "active place" and the "passive place" and my perception of the star is identical with an impression made on a photographic plate. Subjectivity is thus ruled out in the old sense of

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(1) Ibid., p.129.

(2) Ibid., pp.129-30.

the term, for the photographic plate will do as well as a mind.

We may now define perception of an object as "the appearance from a place where there is a brain (or, in lower animals, some suitable nervous structure), with sense organs and nerves forming a part of the intervening medium. Such appearances of objects are distinguished from appearances in other places by certain peculiarities, namely:

(a) They give rise to mnemic phenomena.

(b) They are themselves affected by mnemic phenomena.(1)

What is the relation of sensation to perception? This sensation is the theoretical core of the perception, that part not due to past experience but to the external stimulus only. The man at the theater, for example, actually hears, say, seventy-five percent of the sounds uttered by the players; the rest he unconsciously fills in and infers due to the long-established habit associations of language. In every perception there is the sensation core plus the filling in process which is effected by mnemic causation. (2)

Another point to be noted in our consideration of perception is its vagueness. Strictly speaking, all that is outside my own biography is hypothetical; nevertheless, in perception we interpret some occurrences as being externally stimulated and others as being "centrally excited". The

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(1) Ibid., p.131.

(2) Ibid., pp. 131-2.

differences between these two types of stimulation is one of degree, just as the case of introspection. We may say that "when a mental occurrence can be regarded as an appearance of an object external to the brain, however, irregularly, or even as a confused appearance of several such objects, then we may regard it as having for its stimulus the object or objects in question, or the appearances at the sense organs concerned. When, on the other hand, a mental occurrence has not sufficient connexion with objects external to the brain to be regarded as an appearance of such objects, then its physical causation (if any) will have to be sought in the brain." (1) The difference between physical and psychical causation is one of degree and the time will no doubt come when they will differ only as the laws of solids and gases differ.

What is the relation of images to sensations? Sensations are obviously the means of acquiring knowledge about our world. But sensation alone is not cognition. If it were, we would have to say that in seeing a red color, our seeing was one act and the patch of color another "thing". Thus we would have a subject sustaining a relation of awareness to an object, namely, the patch of color. In other words, we should have to distinguish the sensation and sense-data. This, however, demands admission of a subject. "The subject, however, appears to be a logical fiction, like

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(1) Ibid., p. 136.

mathematical points and instants. It is not introduced because observation reveals it, but because it is linguistically convenient and apparently demanded by grammar. Nominal entities of this sort may or may not exist, but there is no good ground for assuming that they do....We must dispense with the subject as one of the actual ingredients of the world. But when we do this, the possibility of distinguishing the sensation from the sense-datum vanishes; at least I see no way of perceiving the distinction. Accordingly, the sensation we have when we see a patch of color IS that patch of color, an actual constituent of the physical world." (1) Therefore, sensation in and of itself is not a source of knowledge. The patch of color and our sensation in seeing it are identical. Sensations are common to mind and matter, the common meeting-point of the mental and physical worlds.

In the light of what has just been said about sensations, it is now possible to say specifically how they differ from images. In the first place the distinctions are not always clear and vivid: witness the case of dreams and hallucinations. Images and sensations have been distinguished by three methods: (a) By the lesser degree of vividness in images; (b) by our absence of belief in their "physical reality"; (c) by the fact that their causes and

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(1) Ibid., p. 142. Cf. "...perceptions (are) distinct from those which they perceive, and only causally connected with them." Philosophy, p. 179.

effects are different from those of sensations." (1) The first two methods are valid in some cases; the last method alone is universally valid and, therefore, to be chosen for the purpose of definition. "The practically effective distinction between sensations and images is that in the causation of sensations, but not of images, the stimulations of nerves carrying an effect into the brain, usually from the surface of the body, plays an essential part." (2) As regards effects, sensations as a rule have both mental and physical effects, while images may produce bodily movements but do so according to mnemic laws. This difference, however, is less suitable for purposes of definition.

There are, then, no intrinsic differences between images and sensations; at least where such differences are discoverable they are unsuitable for the purpose of definition. We are thus brought to the differences in terms of causes and effects. I can call up an auditory image of a bell ringing; it will have auditory qualities, but the cause will not be such as ordinarily produces the sensation we call hearing a bell. "We might....Conclude that an image is an occurrence having the quality associated with stimulation by some sense organ, but not due to such stimulation....an 'image' is an occurrence recognizably visual (or auditory, etc., as the case may be),

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(1) Analysis of Mind, p. 145.

(2) Ibid., p. 151.

but not caused by a stimulus which is of the nature of light (or sound, etc., as the case may be), or at any rate, only indirectly so caused by a result of association." (1)

The relation of images to sensations is, then, that the former is a "copy" of the latter. The question naturally arises, "What causes us to believe that an image is the "copy" of a past sensation"? What sort of evidence, logical or otherwise, is there for believing that an image is a copy of a past sensation? The status of images involves an analysis of "memory-images", or the problem of memory, to which we now turn.

By way of preliminary remarks it is justifiable to say that there is no logical impossibility in the world's having sprung into existence at this instant, and that memory is something happening now, although we mistakenly refer it to a past. Again, images must be accompanied by belief in order to constitute memory. Images without belief leaves us with only the imaginary. Images constitute memory when (a) they are known to be copies of past sensations; but (b) they are sometimes known to be perfect or imperfect copies of past sensations. How are we to judge whether or not our image is a correct or incorrect copy? This may be answered formally by noting two characteristics

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(1) Philosophy, 184, 185.

of images that give rise to two series, of which one corresponds to the more or less remote period in the past, to which they refer, and the other to the greater or less confidence in their accuracy." (1)

Taking up the second series, the characteristic by which we determine accuracy is what Russell calls "the feeling of familiarity". The second series of characteristics, is such that the remembered event must vary as regards the putting it in the remote past as the interval of time between the event and the memory of the event varies. This characteristic is what Russell calls "the feeling of pastness". Another distinction is found in the degree of "context" present; i.e. a recent memory has more "context" than a memory refering to a more remote past. That is to say, there is less chance of the attendant relations having altered in the recent memory than in a remote memory. But in the main, Russell concludes that images are regarded by us as more or less accurate copies of past sensations, because they come to us accompanied by two sorts of feelings: (a) feelings of familiarity and (b) feelings of pastness. The first lead us to trust our memories and the second leads us to assign them places in the time-order. (2)

Remembering that Russell has rejected a subject as well as an act as having a place in mental phenomena, he

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(1) Analysis of Mind., p. 161.

(2) Ibid., p. 163.

now lays down certain facts which he regards as indubitable. These are:

(a) There is knowledge of the past.

(b) We certainly have more knowledge of the past than we do of the future.

(c) The truth of memory cannot be wholly practical as the pragmatists hold, for we often remember trivialities which have no practical significance.

(d) There are two types of memory that should be distinguished: habit-memory and knowledge-memory. An example of the first type would be reciting a poem; of the second type, recalling what one had for breakfast. The point made here is that mere influence of the past in present behavior does not in itself constitute knowledge of the past. True memory is present only when the memory-image is accompanied by belief in its accuracy and pastness. (1)

(e) Although the memory is an event occurring now, the event remembered is not now occurring.

(f) Memory is bound up with the feeling of familiarity; this is not a cognitive event; it merely involves a feeling that something happening now is similar to something that happened in the past. We say: "This has existed before." (2)

(g) On a slightly higher plane, memory involves "recognition". Russell would prefer to believe that "recognition"

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(1) Ibid., p. 167.

(2) Ibid., p. 170.

involves no cognitive judgment. In his Analysis of Mind (p. 170) he says that "recognition" differs from the feeling of familiarity in that it involves a cognitive judgment; in his Philosophy (p. 196) he admits that it may involve a slight degree of cognition. "When you judge: 'I saw this before', the word 'this' must be used vaguely, because you did not see exactly what you see now, but only something very like this. Thus all that you are really knowing is that, on some past occasion, you saw something very like what you are seeing now. This is about the minimum of knowledge about the past that actually occurs." (1)

(h) Due to the fact that we experience what is called the "specious present", that short bit of finite time, which the mind holds in its grasp while a sensation is fading, we may say that it is possible to experience temporal succession without the need of true memory. In such cases we have what Russell calls "immediate memory". "The knowledge of something as in the immediate past, though still sensible, is called 'immediate' memory"; but this cannot count as true memory.

(i) What, then, is true recollection? You ask me what I had for breakfast this morning and, although I have not thought of it, I can answer you correctly. This is a case of true memory. What is involved in it? There will be two elements. In the first place the images called up

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(1) Philosophy, p. 179.

will be accompanied by a belief-feeling, and this belief feeling will be such that we refer the images to the past. It will be the sort of belief expressed in the word: "This occurred". "This feeling of reality, related to the memory image, and referred to the past by the specific kind of belief-feeling that is characteristic of memory, seems to be what constitutes the acts of remembering in its pure form." (1) And in the second place, pure memory will be correct when the present image is similar in quality (i.e.) auditory, visual, etc.) and structure (i.e. the relational context) to its prototype. "Memory will consist in attaching to (a) complex image the sort of belief that refers to the past; and the correctness of memory consists of similarity of quality and identity of structure between the complex image and a previous perception." (2)

Having now analyzed memory and defined it as an image or images associated with the belief-feeling, it is incumbent upon us to state precisely what belief is. Whatever it is, however, it is not a single kind of occurrence such as the traditional psychology would have us think. "Belief, like all the other categories of traditional psychology, is a notion incapable of precision." (3) Belief may be attached to the feelings of pastness or memory, "bare assent" and expectation. That is to say, these are three attitudes

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(1) Analysis of Mind, p. 186.

(2) Philosophy, p. 199.

(3) Ibid., p. 261.

which we may take toward the content of our beliefs. The particular fact that makes a belief true or false is called the "objective", and the "objective reference" is the relation of the belief to its objective. The truth or falsehood of any belief, as we shall see later, does not depend upon any intrinsic character of it, but "upon the nature of its relations to the objective." The content of a belief is always complex; it may consist in words, images or both, or either or both combined with one or more sensations. The more complex beliefs tend to consist in words only. A proposition will, in general, be identified with one or more beliefs, i.e. the contents of the beliefs. It is simpler, when possible, to deal with propositions rather than beliefs.

A belief may be a recollection, a perception or an expectation. Russell defines belief, following his usual behavioristic method, first as a form of words related to an emotion "of one or several kinds." (1) Thus, belief might be said to be a characteristic of a group of words put in the form of a statement. Statements usually express beliefs or are intended to create beliefs. About the best way we can define belief causally, will be to say that it is "merely a characteristic of a string of actions. We shall have to say: A man 'believes' a certain proposition P if, whenever he is aiming at any result to which P is relevant, he acts in a manner calculated to achieve the

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(1) Ibid., p. 259.

result if P is true, but not otherwise." (1) Thus we are left with belief as a complex and vague feeling which accompanies statements or images or words; no precise definition is possible. This brings us to a discussion of how the truth and falsehood of belief is to be determined and described.

Just as belief is not a "state of mind" but a characteristic of actions or words, so truth is applicable mainly to a form of words, and only derivitively to beliefs. "Words of known meaning, put together according to a known syntax, are true or false in virtue of some fact, and their relation to this fact results logically from the meanings of the separate words and the laws of syntax.....A form of words is a social phenomenon, therefore, the fundamental form of truth must be social. A form of words is true when it has a certain relation to a certain fact. What relation to what fact? I think the fundamental relation is this: a form of words is true if a person who knows the language is led to that form of words when he finds himself in an environment which contains features that are the meanings of those words, and these features produce reactions in him sufficiently strong for him to use words which mean them....The environment causes words, and words directly caused by the environment (if they are statements) are 'true'." (2)

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(1) Ibid., p. 261.

(2) Ibid., p. 262.

The discussion of emotion, desire and will occupies a brief chapter in Russell's "Philosophy". This is because it is the cognitive element in our natures that is of the greatest theoretical importance in the theory of knowledge. Emotions are, of course, abstractions; but the emotional element is rather a hindrance when it comes to discovering the truth about the world. Emotions might be defined as characteristics of the processes involved. "The ingredients of an emotion are only sensations and images and bodily movements succeeding each other according to a pattern." (1) We have already had occasion to mention desire and we said that it is a fiction like a force in mechanics. An organism is restless, it acts so as to achieve quiescence; when this state is reached we say the desire has achieved its "purpose". This sort of a cycle has a property called "pleasure". Desire becomes "conscious" when it is accompanied by appropriate words. Desire has no "object". We have certain feelings of restlessness and through habit-association we know what will achieve the quiescence of this feeling. Thus, even in explicit conscious desire we are not striving toward a goal, but being pushed from behind. "The attraction to the goal is a shorthand way of describing the effects of learning together with the fact that our efforts will continue till the goal is achieved, provided the time required is not too long." (2)

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(1) Analysis of Mind, p. 284.

(2) Philosophy, p. 222.

Likewise "will" introduces no new element in our analysis of mind. Will is a voluntary movement, but the only thing that distinguishes a voluntary movement, is that it is accompanied by an idea of the movement to be performed, which idea is in turn made up of images and sensations which accompanied the act when first performed. On this view no movement can be performed voluntarily unless it has previously occurred. "We shall say, then, that movements which are accompanied by kin-aesthetic sensations tend to be caused by the images of those sensations, and when so caused are called voluntary." (1) This same attitude is taken in Russell's "Philosophy" where he says, "--- there is nothing at all mysterious about the will. Whatever may constitute 'thinking of' a movement, it is certainly something associated with the movement itself; therefore, by the usual law of learned reactions we should expect that thinking of a movement would tend to cause it to occur. This, I should say, is the essence of will." (2)

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(1) Analysis of Mind, p. 285.

(2) Philosophy, p. 224.

CHAPTER III

Theory of Reality

Philosophy aims at the achievement of knowledge about the universe as a whole. It is only because we must come by this knowledge by way of our minds that we must study the constitution of minds and the method by which it achieves its knowledge. Speculation about the world naturally begins with the uncritical assumption that we see and know the world as it actually is. Thus metaphysics came before epistemology. But logically, the order is reversed: metaphysics comes only after the nature and validity of thought processes have been studied. We have outlined Russell's analysis of the mind. Now we must ask ourselves what the nature of the world which that mind discovers is and also determine the status of the mind itself in the whole scheme of the universe. "We are not in the proper mood for philosophy so long as we are interested in the world only as it effects human beings; the philosophic spirit demands an interest in the world

for its own sake." (1) The ideal of philosophy would be a strictly impersonal view of the view of the whole wherein the personal and distorting elements of human mind are wholly eliminated.

Before beginning our discussion of Russell's theory of reality, I wish to note two points which have already come out of the discussion. First, the idea of substance is utterly rejected by Russell. (2) This was seen in his denial of the ego and consciousness. Things and persons are not ultimately valid concepts. Modern physics rules out the notion of permanent substance. In the second place, "causality does not involve compulsion, but only a law of sequence." Cause and effect can just as well be reversed and what we usually call the effect may just as truly called the cause: it depends upon the way we want to look at the matter. (3)

We can now state what in Russell's view constitutes reality. The universe is made up of events. "When I speak of an 'event' I do not mean anything out of the way. Seeing a flash of lightening is an event; so is hearing a tire burst, or smelling a rotten egg, or feeling the coldness of a frog." (4) Every event is composed of a number

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(1) Philosophy, p. 236.

(2) Ibid., p. 243.

(3) Ibid., p. 239.

(4) Ibid., p. 276.

of finite parts which are ultimate; i.e. are not themselves composed of events. Such is called a "minimal event". A minimal event occupies a finite region in space-time. If such an event happens to be in a head having a brain, we have what is ca~~pp~~lled a perce~~p~~tion. Thus, in the case of the flash of lightening, there is a series of events causally connected, the last one of which happens to be in a brain. "Percepts afford the logical premises for all inferences of events that are not percepts, wherever such inferences are logically justifiable. Particular colors and sounds and so on are events; their causal antecedents in the inanimate world are also events."(1) If the world is to be regarded as a system of events, we are under the necessity of justifying our common sense notions of perception as well as the conceptions with which physics deal. In other words, what place will such things as perceptions by means of which we arrive at our knowledge of the external world occupy in our theory or reality? How can we justify the use of points, instants and matter, with which the physicist deals, and deals successfully? "What are the ultimate existents in terms of which physics is true (assuming there are such)? And what is their general structure.....We shall find, if I am not mistaken, that the objects which are mathematically primitive in physics, such as electrons and protons, and points and space-time,

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(1) Ibid., p. 277.

are all logically complex structures composed of entities which are metaphysically more primitive, which may conveniently called 'events'. It is a matter for mathematical logic to construct out of these, the objects required by the mathematical physicist. It belongs also to this part of our subject to enquire whether there is anything in the known world which is not part of this metaphysically primitive material of physics." (1) The problem is then that of reinterpreting what we ordinarily call mind, and what the physicist calls matter, points, instants, etc., in terms of what Russell calls the metaphysically primitive "event". If this can be successfully accomplished without doing violence to the known facts or the laws of logical reason, then there is no reason to regard such a system of events as not "real". Let us outline briefly how, in the case of the external world, this is to be done.

Obviously, no thoroughgoing analysis of matter is possible in a thesis of this kind. Moreover, I am unable to follow Russell in some of the more technical aspects of his analysis. Nevertheless, it is quite possible to grasp the conclusions at which he arrives insofar as they have bearing on his philosophy. Before entering upon this phase, however, a word as to his method.

The problem, as stated above, is solved by means of what Russell calls the logico-analytic method. That is to

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(1) Analysis of Matter, pp. 9-10.

say, by means of analysis and the tools of mathematical logic. This requires a peculiar mental discipline. Generally, it is found that any large problem contains a number of smaller problems. These component problems are more abstract than the original problem. Every philosophy must start with "data" and, as we have seen, perceptions are our original "data". But perceptions are confused and vague. Therefore, it is necessary to reduce this vague and complex group of "data" to simple "data" such as can be conveniently handled. To do so, we "create an apparatus of precise conceptions as general and as free from complexity as possible." Thus, philosophy is able to analyze its data into the kinds of premises that it needs. By following out this process we arrive further and further back, to more and more refined and abstract concepts. "When everything has been done that can be done by this method, a stage is reached where only direct philosophic vision can carry matters further. Here only genius will avail. What is wanted, as a rule, is some new effort of logical imagination, some glimpse of a possibility never conceived before, and then the direct perception that this possibility is realized in the case in question". From this point on all is comparatively simple: the work of synthesis can be carried out easily. The real difficulty is in completing the final stage of the analysis. (1)

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(1) Our Knowledge of the External World, pp. 261-2.

Returning now to the analysis of the physical world proper, we note that our original data are of two kinds or grades, the one certain and distinct, the other less certain. Our knowledge is either immediate or derivitive, or what in his earlier work, "The Problems of Philosophy", Russell called "knowledge by acquaintance and knowledge by description". For example, our knowledge of other people's minds is derived, while our knowledge of their movements in space is immediate. Or again, we naturally believe that the table is there when we are not looking at it, but we infer the existence of a persisting table quite unconsciously. We are thus led to distinguish between two sorts of data, "hard and soft". The hardest of hard data are the particular facts of sense and the truths of logic. (1) Soft data include most of our "psychologically derivitive" beliefs; i.e., those beliefs that are held because of other beliefs or because of a fact of sense which is not simply what the belief asserts. Among our hard data will be classed the facts of memory, certain introspective facts, spacial and temporal relations, and some facts of comparison, such as the likeness or unlikeness of two shades of color.

Having made this distinction, is it possible to know of the existence of anything other than our own hard data? Or, to state it differently, can we know of the existence of any reality which is independent of ourselves? But

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(1) Ibid., p. 75.

this second form of the question is inadequate because the words "self" and "independent" have not been defined. The word "depend" may be taken in the logical or in the causal sense. Logically there is no reason to deny that things can exist independently of us, but in the causal sense, the question assumes the form in which it was first stated; namely, is it possible to know that objects of sense other than our own hard data (thoughts and feelings, etc.) exist at times when we are not perceiving them? This problem may be divided into two: "Can we know that objects of sense, or very similar objects, exist at the times when we are not perceiving them?" And secondly, "If this cannot be known, can we know that other objects, inferable from the objects of sense but not necessarily resembling them, exist either when we are perceiving the objects of sense or at any other time?" (1) This latter problem will be considered now.

(a) The natural feeling of passivity which we experience during sensation accounts for the fact that we attribute sensation to outside causes. And it is the common sense belief in persisting substances that makes us say that the physical object is the cause of our sensations. But we cannot prove that a table, for instance, is any more than a patch of color correlated with certain tactual sensations. Therefore, all we have a right to

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(1) Ibid., p. 80.

say is that we know certain correlations of sensations. Otherwise, should have to introduce such metaphysical superstitions as "things". In walking around a table we note that its appearance gradually changes. What we should say is that certain gradually changing sense-data are correlated with certain other bodily sensations, i.e. with other sense-data themselves. (1)

(b) If this is all that our hard data provides us with, it becomes necessary to construct the world of physics out of such hard data; insofar as physics is verifiable it must be capable of interpretation in terms of these simple ingredients. At this level, verification would be possibly only within one individual; for the existence of other minds is not a part of our hard data. But this would not carry us far towards establishing a complete science. Yet, the existence of our own hard data is the most real thing we know. "Objects of sense, even when they occur in dreams" are real. (2) The only thing that differentiates them is their connexion or lack of connexion with other objects of sense. Both dreams and walking life must, at the present stage, be treated with equal respect.

(c) The hypothesis advanced to explain these facts is as follows: Russell proposes an imaginative construction which will do justice to the facts of bare perception

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(1) Ibid., p. 89.

(2) Ibid., p. 90.

(hard data) and the facts of physics. "Let us imagine that each mind looks out upon the world....from a point of view peculiar to itself; and for the sake of simplicity let us confine ourselves to the sense of sight....Each mind sees at each moment an immensely complex three-dimensional world; but there is absolutely nothing that is seen by two minds simultaneously. When we say that two people see the same thing, we always find that owing to the difference of point of view, that there are differences, however slight, between their immediate sensible objects. The three-dimensional world seen by one mind, therefore, contains no place in common with that seen by another, for places can only be constituted by things in or around them. Hence, we may suppose , in spite of the difference between the different worlds, that each exists entire exactly as it is perceived, and might be exactly as it is even if it were not perceived. We might further suppose that there are no infinite number of such worlds which are in fact unperceived ....The system consisting of all views of the universe, perceived and unperceived, I shall call the 'system of perspectives'; I shall confine the expression 'private worlds' to such views of the universe as are actually perceived. Thus a private world is a perceived perspective; but there may be any number of unperceived perspectives". (1)

In the above scheme what we call a "thing" may be defined fairly accurately. Between any two perspectives,

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(1) Ibid., pp. 92-3.

there are theoretically an infinite number of unperceived perspectives. Thus the space of all perspectives can be made continuous, and each perspective can be correlated with all of the others. Given any one perspective, all correlative perspectives may be constructed therefrom and that system of perspectives may be called the common sense "thing". "All the aspects of the thing are real; whereas the thing is a mere logical construction". (1)

(d) We have now to explain how the private space of a single perspective can be correlated with the one all-embracing public space with which physics deals. Perspective space is the entire system of the spaces of the aspects or perspectives. Calling each perspective a mathematical point, we may construct a line out of all similar perspectives or points. Thus, a penny viewed from all places on such a hypothetical line will appear, as a circular disc, not an elipse. All the perspectives that are circular, then, will be in a straight line, and this line will be in a perspective space. The perspective in which the penny is said to look bigger will be nearer to the penny than those in which the penny is said to look smaller. Now just as a line was formed by means of the points in which the penny is said to be circular, so a line may be constructed out of the points at which the penny is said to be on end. In this position the penny will appear as a line of a certain thick-

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(1) Ibid., p. 94.

ness. All the points at which the penny thus appears will go into the construction of the second line. Where the two lines meet in perspective space will be called the "place" where the penny is said to be, but isn't. In like manner, we may define "here" as "the place in perspective space which is occupied by our private world." Accordingly, we say that a thing is near when it occupies a place in perspective space that is near to my private world. (1)

(e) Summary: "We have now constructed a largely hypothetical picture of the world, which contains the places and experienced facts, including those derived from testimony. The world we have constructed, can, with a certain amount of trouble, be used to interpret the crude facts of sense, the facts of physics, and the facts of physiology. It is, therefore, a world which MAY be actual. It fits the facts and there is no empirical evidence against it; it is also free from logical impossibilities. But have we any good reason to suppose that it is real? This brings us back to our original problem, as to the grounds for believing in the existence of anything outside my own private world." (2)

While the arguments for the existence of other minds are not conclusive, we must assume their existence because

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(1) Ibid., pp. 96-7

(2) Ibid., p. 98

there is no reason to disclaim it as a working hypothesis. It has not lead to false consequences so far as we know. Once admitting this we can extend our knowledge of the sensible world by testimony, and this leads us to a system similar to the hypothetical universe which we have just constructed. The fact that an object appears differently to different people, or to the same person at a different time, is now capable of being explained; our construction shows that both the worlds of common sense and of physics can be interpreted in a way logically justifiable and which, in addition, opens the way for a reconciliation of psychology and physics. (1)

Just as we are justified in assuming the existence of other minds, so we can accept the concept of matter, provided we reword our definition of it in terms of our hypothesis; this means that we reword our definition of a thing without the assumption of a sybstance. A thing, then, is a "certain series of appearances connected with each other by a continuity and certain causal laws"; a thing is a series of aspects; namely, those which would be commonly ascribed to a thing. "To say that a certain aspect is an aspect of a certain thing will merely mean that it is one of those which, taken serially, are the thing." (2) A thing must meet three tests: it must have continuity of

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(1) Ibid., pp. 101-2.

(2) Ibid., p. 113.

change, must be a fairly stable collection of events, and must fulfill certain causal laws; i.e., it must be possible to collect events into series, each of which is regarded as belonging to the thing. "An event at one moment is succeeded by an event at a neighboring moment, which, to the first order of small quantities, can be calculated from the earlier event. This enables us to construct a string of events, each, approximately, growing out of a slightly earlier event according to an intrinsic law of development....This is what I mean by saying that a piece of matter is causal." (1)

Verification of physics is, of course, made possible only through the channels of sense-perception. But truth and verification are not identical. Truth becomes verification when it is known, just as belief becomes knowledge when it is true. But in physics there are three things that are not verifiable: (a) How things would appear at times when there is no spectator to perceive them; (b) how things would appear at a time when, in fact, they are not appearing to anyone; (c) things which never appear at all. The hypothetical universe constructed above makes a place for these three parts of physics; that is, it is possible to arrive at such unverified knowledge by means of logical constructions or functions of sense-data. This is verified by a hypothesis that does not assume

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(1) Philosophy, pp. 112-13.

the "matter" of physics other than that which is given in sense or can be logically constructed therefrom. (1)

The above discussion of "things" and "matter" as commonly thought of in connexion with the external world and as employed in physics, having been adequately disposed of by means of our hypothetical Leibnitzian universe, we may now ask, in conclusion, how does it deal with the remaining fundamental concepts of physics, namely, space and time? The question to be answered here is, does our construction make a place for the mathematical points and instants of the physicist, and if so, how? The method here is too technical for me to understand, let alone expound it; but it is possible to see how mathematical points and instants are constructed logically out of our initial sense-data. Whitehead has advanced a method whereby points and instants are defined as a class of events having certain abstract enumerated properties. (2) We may illustrate in the case of instants with the following simplified process. An event is either simultaneous with, or before or after any other event. An event A begins after an event B and the two overlap; but B ends before A. Another event C is simultaneous with both A and B, but ends before B. Continuing to introduce new events that are simultaneous with all events in the series, yet terminating before the one preceding, we arrive at an absolutely accurate date for any particular event.

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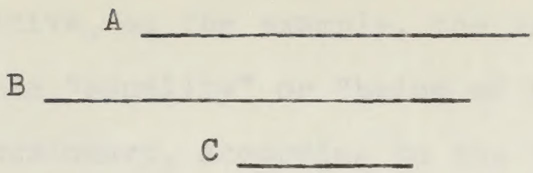
(1) Our Knowledge of the External World, pp. 117-8.

(2) Ibid., 121.



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Taking any group of events of which any two overlap; there will be some time when they will all exist simultaneously. If there is any other event which is simultaneous with the time at which all of these exist, include it in the group. Continuing this process until there is no event outside the group of events simultaneous with each other, we construct a whole group which is defined as an instant of time. (2) This illustrates the method by which instants are constructed so as to validate the demands of mathematics, while at the same time, building upon our sense data and not bringing in any metaphysical entities. That is to say, the above method merely suggests the way in which the tools of mathematics and physics are constructed logically out of the data of sensation. In other words, it is possible to manipulate sense-data into points, particles and instants and, therefore, physics is "true", applicable to the real world. (3)

In the above definition of instants, and the same applies to points, it was assumed that in the place of "substance" we have relations which are real, or which "subsist". In any series of relations that are symmetrical

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(1) Ibid., p. 126.

(2) Ibid.

(3) Ibid., p. 131.

and transitive, as for example, the relation expressed by the words "equality" or "being of the same weight", it has been customary, according to the traditional logic, to look for a common quality which was said to inhere in the substance. But as a matter of fact, a class of terms having a transitive and symmetrical relationship will perform all the formal requisities of a common quality. Therefore, it is prudent as well as in the interest of logical economy, to disregard such an entity as substance or common quality, which may be illusory, and deal with relations only. (1)

We have now interpreted the external world in terms of events by means of the logico-analytic method. The hypothetical Leibnitzian universe accounts for the world of common sense-perception as well as the world with which physics deals. We must now address ourselves to the question: Can such a system account adequately for mind? Can the mind be constructed out of events? Matter, we have seen, has disappeared, or at least has been reinterpreted radically. Mind fares little better. There are certain events of an important class that we call mental, namely, percepts. It is, of course, arbitrary to say that other events are not mental; yet it is difficult to say what events should be included in that class we call "mental". The two most essential characteristics of mind are introspection and memory. But introspection, we have found, to

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(1) Ibid., p. 136.

be not unlike ordinary "knowledge": when we see the hippopotamus we should say, philosophically, "There is a colored pattern of a certain shape, which may perhaps be connected with a system of external causes of the sort called a 'hippopotamus'". In memory we find that there are instances of physiological association; that memory characterizes living tissue and so cannot be ascribed solely to "mind". Thus, there is nothing invariably "mental" about memory, as there is nothing peculiar in introspection. The "colored pattern" which is taken to mean "hippopotamus" is a sort of knowledge reaction to an external stimulus that may be called "mental". So are other events resembling the knowledge-reaction. "But I do not see any way of defining this wider group except by saying that mental events are events in a living brain, or, better, in a region combining sensitivity and the law of learned reactions to a marked extent. This definition has at least the merit of showing that mentality is an affair of causal laws, not of the quality of single events, and also that mentality is a matter of degree." (1)

Events in the brain are not to be thought of in terms of matter in motion. Both matter and motion are constructs. When there is an event in the brain, percept, we are actually perceiving a part of the "stuff" of the brain, not part of the "stuff" of tables, chairs, sun, etc. In looking at the green leaf we are seeing a green patch. "This

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(1) Philosophy, pp. 280-1.

patch is not 'out there' where the leaf is, but is an event occupying a certain volume in our brains during the time that we see the leaf. Seeing the leaf consists in the existence, in the region occupied by our brain, of a leaf patch causally connected with the leaf, or rather with a series of events emanating from the place where physics places the leaf. The percept is one of this series of events, differing from the others in its effects owing to the peculiarities of the region in which it occurs--or perhaps it would be more correct to say that the different effects are the peculiarities of the region. Thus 'mind' and 'mental' are merely approximate concepts, giving a convenient shorthand for certain approximate laws. In a completed science, the word 'mind' and the word 'matter' would both disappear, and would be replaced by causal laws concerning 'events', the only events known to us otherwise than in their mathematical and causal properties being percepts, which are events situated in the same region as a brain and having effects of a peculiar sort called "knowledge-reactions'". (1)

Russell describes himself as a monist because the world is made up of neutral events or entities of the above sort; but he is also a logical atomist because there is an innumerable multiplicity of events, "each minimul event being a logically self-subsistent entity".

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(1) Ibid., p. 281.

CHAPTER IV

Logic

Knowledge is of two sorts, knowledge by acquaintance and knowledge by description. The first includes all of which we are directly aware, without any intermediate processes of inference. Knowledge of our own states of mind or our own sense-data is of this kind. The second type is illustrated in the case of what we call knowing a physical object; a table is an inference based upon our sensations of color, hardness, etc., and not something with which we are directly acquainted. Such knowledge is called knowledge of truths.

Knowledge by acquaintance consists of (a) knowledge of sense-data, including memory and introspection, and (b) probably knowledge of ourselves. (1) In addition to these, knowledge may be had of Universals, of "general ideas". These universals are said to "subsist" or "have

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(1) This was written in Russell's Problems of Philosophy, and would probably not be admitted by him now since in his later writings he denies outright the existence of the self, as we have seen.

being" as opposed to knowledge of particulars, introspection, memory, etc., which are said to "exist". Universals include sensible qualities such as hardness, etc.; space and time relations; other relations such as similarity and dissimilarity; and a certain abstract logical principles.

The second type of knowledge, that by description, gives us knowledge of "truths". "The chief importance of knowledge by description is that it enables us to pass beyond the limits of our private experience. In spite of the fact that we can only know truths which are wholly composed of terms of which we have experience in acquaintance, we can yet have knowledge by description of things which we have never experienced. In view of the very narrow range of our immediate experience, this result is vital, and until it is understood, much of our knowledge must remain mysterious and therefore doubtful". (1) The principle involved in arriving at such knowledge is the principle of induction, by which we are enabled to pass from what is immediately given to what is derivitively deduced therefrom. But all that knowledge by induction can give is probability. If asked how we know the sun will rise tomorrow, we might answer in the positive, because of the reign of law, or because it always has in the past. But obviously all we can say is that it will probably rise, for we are not sure that something may not interfere with the working of the law. The

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(1) The Problems of Philosophy, p. 92.

principle of induction, therefore, might be laid down as follows:

1. The greater the number of times in which a thing of the sort A has been found associated with a thing of the sort B, the greater is the probability (if no cases of failure are known) that A will continue to be associated with B.

2. Under the same circumstances, a sufficient number of cases of association of A with B will make it nearly certain that A will always be associated with B , and this general law will approach certainty without limit. (1)

The truth of the inductive principle is always relative to the data at hand and the fact that our inductions are sometimes mistaken shows that not the principle is false, but that our data were limited. Also, this principle cannot be proven by experience, for while it may confirm our expectations, it is this principle alone which enables us to pass from our immediate experience to what is as yet outside our experience. Hence, we must accept the inductive principle upon the basis of its intrinsic evidence. All possible evidence is never experiences; therefore, with reference to the future we have at best only probability.

Returning now to knowledge by acquaintance, we said that we know certain general principles. What can be said for them? We may outline briefly:

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(1) Ibid., pp. 104-5.

1. There are logical principles that cannot be proven by experience.

2. But although part of our knowledge is logically independent of our experience (in the sense that experience cannot prove it) such knowledge is nevertheless elicited by experience in that experience draws our attention to it. Such knowledge is called a priori, because while experience causes us to have it, it does not prove it. Such principles are seen, not proven.

3. Included in a priori are the following:

(a) Logical principles. What follows from true premises is true.

(b) Knowledge of ethical values, as the desirability of good.

(c) All pure mathematics. (1)

All a priori knowledge, if it is not erroneous, is not, as Kant said, merely knowledge about the constitution of our minds, but is applicable to whatever the world may contain. A priori knowledge is concerned, in fact, with entities which do not, properly speaking, exist in the mental or physical world. Such entities are named by the parts of speech which are not substantives; they are qualities and relations. (2) Thus, if I am in my room, the room and I are in a certain relationship. This relationship is true whether anyone thinks it or not. Edinbourgh is north of London whether a mind happens to think so or not.

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(1) Ibid., pp. 116ff.

(2)

We are thus led to the conclusion that there are two degrees of reality, the existence of facts and the subsistence of relations. Relations do not exist in the same sense as feelings and sense-data, but they "have being". Universals also have this sort of being or subsistence. These are similar to Plato's ideas, such as, for example, justice, as opposed to a particular just act. In general, proper names stand for particulars, while adjectives, prepositions and verbs stand for universals.

Traditional logic has had the salient defect of regarding qualities as the only strict universals, whereas now relations are seen to be true universals. The nature of their reality, however, is hard to grasp; the relation "north of" does not exist at any particular time or in any particular place. Hence, we say that universals "have being" or subsist, while particulars exist in the world of space and time. We thus have two worlds, the world of being and the world of existence. "The world of universals, therefore, may be described as the world of being. The world of being is unchangeable, rigid, exact, delightful to the mathematician, the logician, the builder of metaphysical systems, and all who love perfect on more than life. The world of existence is fleeting, vague, without sharp boundaries, without any clear plan or arrangement, but it contains all thoughts and feelings, all the data of sense, and all physical objects, everything that can do either good or harm,

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anything that can make any difference to the value of life and the world. According to our temperaments, we shall prefer the contemplation of the one or the other". (1)

We have now outlined briefly the early tendencies in Russell which eventuated in a full-blown Realism. This outline as given appeared in his "Problems of Philosophy", published in 1912. In his following works we find little or no reference to the world of universals that figured so prominently in his earlier writings. Just what happened to this Platonic idealism is not clear. It seems to have slipped overboard without the apparent notice of Russell. We may venture that mathematics alone is left to occupy the celestial realm of pure being. We shall now note the later developments of Russell's logical method, for it is the logico-analytic method that characterizes his philosophy more than any other one thing.

The logico-mathematical method is, as we have remarked, the essence of philosophy. Says Russell of it, "This method, of which the first complete example is to be found in the writings of Ferge, has gradually, in the course of actual research, increasingly forced itself upon me as something perfectly definite, capable of embodiment in maxims, and adequate in all branches of philosophy, to yield whatever objective scientific knowledge it is possible to attain. Most of the methods hitherto practiced have professed to

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(1) Ibid., p. 156.

lead to more ambitious results than any that logical analysis can claim to reach, but unfortunately these results have always been such as many competent philosophers considered inadmissible. Regarded merely as hypotheses and as aids to the imagination, the great systems of the past serve a very useful purpose, and are abundantly worthy of study. But something different is required if philosophy is to become a science, and aim at results independent of the tastes and temperaments of the philosopher who advocates them." (1)

The new logic is deductive and not inductive. Logic in the middle ages was a slavish imitation of Aristotle and it was not until the time of Bacon and Galileo, especially the latter, that logic was expanded to include induction. But although induction is important as a method of investigation, it is not finally satisfactory, for it seems that everything is, in the last analysis, deductive. (2) Mill's theory of induction, based on simple enumeration means only that on the basis of such and such data certain results are probable. We saw that the principle of induction cannot be proven by experience or justified wholly empirically. The same may be said of all logical principles and we, therefore, conclude that logic is deductive and a priori. (3)

The mathematical logic is now becoming a branch of

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(1) Our Knowledge of the External World, p. vii.

(2) Ibid., p. 36.

(3) p. 40.

mathematics, but is applicable to philosophical problems. Leibnitz wrote much on this subject that remained unpublished during his life-time. The modern development of mathematical logic begins with Boole's formulation of the laws of thought, but serious advance was not made until Peano and Ferge. The works of these two mathematicians enable us to deal easily with abstract conceptions and to suggest hypotheses that could hardly be thought of otherwise. Upon a few fundamental principles it is possible to build a complete edifice of logical theory. In particular, the principle of Abstraction is of importance. "The principle may be briefly indicated....When a group of objects have that kind of similarity which we are inclined to attribute to the possession of a common quality, the principle in question shows that membership of the group will serve all the purposes of the supposed common quality, and that therefore, unless some common quality is actually known, the group or class of similar objects may be used to replace the common quality, which need not be assumed to exist." (1) This principle of abstraction was amply illustrated in Russell's theory of mind and reality. In a sense, it means that we should observe, according to Russell, Occom's razor by not employing more entities than necessary.

The new Logic is formal, that is, it is concerned with the form of the propositions involved. "Socrates is mortal",

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(1) Ibid., p. 44-5.

"The sun is hot", "Jones is angry" are three different propositions that have the same form. The form is one thing; the constituents, "sun", "Jones", in the above case, are another. Form is something abstract and remote. "In all inferences, form alone is essential: the particular subject-matter is irrevelant except as securing the truth of the premises." (1) Inferences thus have a generality that makes them formally true regardless of the particular things referred to. "In logic it is a waste of time to deal with inferences concerning particular cases: we deal throughout with completely general and purely formal implications, leaving it to other sciences to discover when the hypotheses are verified and when they are not." (2)

Traditional logic has made the mistake of believing that the only form in which a proposition can appear is the subject-predicate form; such as, for example, "The table is round." But obviously such statements as "This is larger than that" cannot be classified as a subject-predicate proposition. The belief that every proposition must assign a quality to some thing has rendered logic incapable of giving a rational account of the world and daily life. Traditional logic has not admitted the reality of relations because it was interested in maintaining the unreality of the world of science in the interests of asuper-

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(1) Ibid., p. 46.

(2) Ibid., p. 47.

sensible world, a conviction born of mystic mood and later substantiated (falsely) by what appeared to be solemn logic. Traditional logic made relations merely properties of "apparently related" terms; the new logic assigns reality to relations.

One of the simplest ways of refuting the old logic is to point out certain ways of classifying relations. There is one classification which divides all relations into symmetrical, non-symmetrical, and asymmetrical. These may be defined respectively as follows: a relation is symmetrical if, when true of A to B, is true of B to A; an example of a non-symmetrical relation is the word "brother", because if A is the brother of B it does not necessarily follow that B is the brother of A, since B might be the sister of A; and a relation is asymmetrical if it holds between A and B but never between B and A.

Another method of classifying relations is into transitive, non-transitive and intransitive. If a relation holding between A and B and B and C holds between A and C also, it is said to be transitive. "After" would express such a one. Any relation of similarity is non-transitive, i.e., simply not transitive. The relation which, when holding between A and B and between B and C never holds between A and C is intransitive. The relation expressed by the word "father" would be such a one.

Now it is when we endeavor to express such relations as the above in the subject-predicate form that serious

difficulty arises. Symmetrical relations might be so expressed, but when we come to asymmetrical relations, such as before and after, greater or less, the attempt to reduce them to properties is obviously impossible. "When, for example, two things are merely known to be unequal, without knowing which is greater than another, we may say that the inequality results from their having different magnitudes, because inequality is a symmetrical relation; but to say that when one thing is greater than another, and not merely unequal to it, that means that they have different magnitudes, is formally incapable of explaining the facts. For if the other thing had been greater than the one, the magnitudes would also have been different, though the fact to be explained would not have been the same. Thus, mere difference of magnitude is not all that is involved, since, if it were, there would be no difference between one thing being greater than the other, and another being greater than the one. We shall have to say that one magnitude is greater than the other, and thus we shall have failed to get rid of the relation 'greater'. In short, both possession of the same property and possession of different properties are symmetrical relations, and therefore cannot account for the existence of asymmetrical relations." (1)

In other words, all such relations as give rise to series in space and time, greater or less, whole and part,

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(1) Ibid., p. 52.

cannot be reduced to mere common properties of the terms of which they are affirmed. Thus, in the above quotation, we see that it is impossible to reduce the asymmetrical term "greater" to the symmetrical term "different magnitude" and so we are left with all asymmetrical relations unaccounted for. Traditional logic has simply condemned such relations as error or mere appearance or properties of the terms. But to those whose "logic is not malicious", such methods seem to be mere dogmatic prejudice and there is no ground for the denial of the realty of relations.

Relations may be simple or complex, holding between two terms only or between three or more. To distinguish between simple and complex relations, we need to classify the logical forms of facts. By a fact is meant that "a certain thing has a certain quality, or that certain things have certain relations." A fact may merely assign a quality to a thing or a relation between two or more things. In the first instance, the fact would contain two constituents and in the second, three or more. Any assertion expressing a fact, true or false, is a proposition. "Thus a proposition is what may be significantly asserted or denied. A proposition which expresses what we have called a fact.... Will be called an atomic proposition because, as we shall see immediately, there are other propositions into which atomic propositions enter in a way analogous to that in which atoms enter into molecules....In order to preserve the parallelism in language as regards facts and propositions,

we shall give the name 'atomic facts' to facts we have hitherto been considering. Thus, atomic facts are what determine whether atomic propositions are to be asserted or denied. (1)

The atomic facts which we come to know are the facts of sense-perception and these, of course, are known emperically or directly. Pure logic, on the other hand, is concerned only with forms, not atomic facts; pure formal logic is thus the extreme, a priori pole, while atomic facts are at the other empirical pole. Between the two poles lie "molecular propositions" (those containing such words as "if", "and", "unless") and general propositions such as "All men are mortal." Molecular propositions are those, then, that are made up of two or more atomic propositions, the relation or correspondence of which does not in any way depend upon the atomic facts of the atomic propositions in question. "If it rains, I shall bring my umbrella" does not depend for its truth upon the occurrence of rain or my bringing my umbrella. General propositions, such as "All men are mortal" cannot depend entirely for their truth upon experience, since as we have already said, induction is in the nature of the case not capable of proof by experience. There is some knowledge that must be primitive and it is such general knowledge that it is found in logic.

Logic, we conclude, therefore, has two general divisions.

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(1) Ibid., p. 60.

It classifies the various types of relations, facts and propositions in order to make them formally capable of logical and formal manipulation. The second part of logic consists in formulating "certain supremely general propositions, which assert the truth of all propositions of certain forms", (1)

The motive for treating propositions relationally is to avoid unnecessary assumptions of such things as substance and other needless entities. For the same reason, "common properties" are to be avoided when possible. "No harm is done if there are such common properties as language assumes, since we do not deny them but simply abstain from asserting them. But if there are not such common properties in any given case, then our method has saved us against error. In the absence of special knowledge, therefore, the method we have adopted is the only one which is safe, and which avoids the risk of introducing fictitious metaphysical entities." (2)

We should add here for the sake of emphasis that the above theory is known in the Realistic school as the doctrine of external relations. We have logical atoms consisting of propositions or universals which enter into relations without themselves undergoing any change. We may quote from Russell's "Principles of Mathematics": "In

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(1) Ibid., pp.61.

(2) Ibid., pp.136-7.

short, no relation ever modifies either of its terms. For, if it holds between A and B, then it is between A and B that it holds, and to say that it modifies A and B is to say that it really holds between different terms C and D. To say that two terms which are related would be different if they were not related, is to say something perfectly barren; for if they were different, they would be other, and it would not be the terms in question, but a different pair that would be unrelated". (1)

If we were to single out two predominating features of Russell's logic, they would have to be, therefore, the doctrine of external relation and the principle of abstraction.

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(1) Quoted in Sheldon, op. cit., p. 229.

Part Two

Criticism of Russell's Philosophy

CHAPTER V

Turning now to a critical review of Russell's theory of mind we shall concern ourselves first with the problem of consciousness as he deals with it. Having virtually objectified all mental states into series of "mental events" that are "causally related" consciousness dissolves under the analysis. He regards it as an unnecessary metaphysical entity that had best be forgotten. On the face of it, this would seem absurd; but when we realize that it is the result of abstraction, it is not so hard to understand. In the first place Russell is reacting against the view that consciousness is somehow a metaphysical substance that exists in the background ready to assert itself on occasion. We hold that there is no consciousness apart from its activity. But we also believe that "mental events" cannot exist in mid-air and for no one in particular. Mental events are mental in virtue of consciousness. At the outset,

in his Philosophy, Russell says, "First we must do away with the word 'I'", but in all the chapters that follow, he consistently assumes its existence and reality.(1) Formally he denies the self; practically he cannot do without it. The status of consciousness, however, is by no means clearly indicated in Russell's works. In "The Analysis of Mind", we learn that consciousness must be "of something" and that while there is consciousness, it is not the "essence" of mind.(2) But in his "Philosophy" consciousness is denied both in the relational sense and as a quality of mental states.(3) For Russell, there are mental events, but these do not differ intrinsically from events outside the head. Mentality is a matter of degree. From the standpoint of physics a mental event is inside a head and it MAY be caused by an external object, but this is not necessarily true. For example, the perception of a table might be obtained by pressing the eyeball a certain way or stimulating a certain nerve. Therefore, says Russell, consciousness need not be a relation to an object. What we see, when we perceive a table, is a part of the "stuff" of our minds, an event in our brains; what we see is as mental as the seeing. In seeing a table, we are aware of a colored pattern, "and this is exactly what we have when we are aware of our own

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(1) p. 17.

(2) p. 288.

(3) p. 210.

'mental' states, such as the existence of a colored pattern when we thought we were seeing a table." Now to hold that the above statements do not involve a relation is manifestly rank dogmatism. What does not exist FOR some one is nonexistent. The duality of subject and object is in no wise avoided by merely abstracting the two terms of the knowing process. It is as though one person were to claim the power of singing a duet. Russell would argue consciousness and the duality of the knowing process out of court, but in so doing, he assumes and reinstates what he is attempting to disprove.

Logically, Russell should arrive at solipsism. If what we know is in our heads, how can we ever get outside? For instance, how could Russell claim to know so much about the physiological process of stimulation and reaction that figure so prominently in his analysis of perception? He could not so much as commence his analysis without assuming that there is an external object. He does, in fact, commit himself to such a view time and again. Yet, we are told, what we see is "in our heads", we cannot assume that there is an external cause, and other startling and contradictory bits of information. That there is a chain of causes and effects leading from the external object to the brain where the perception takes place is no reason for denying the subject-object relation of all knowing. It is an unbelievably rapid process to be sure, but it is not to be confused with the knowing process which is not spatial but logical.

It is possible to hold to a monism of substance while affirming the dualism of all knowledge.

"It is supposed," says Russell, "that thoughts cannot just come and go, but need a person to think them. Now it is true, of course, that thoughts can be collected into bundles, so that one bundle is my thoughts, another is your thoughts, and a third is the thoughts of Mr. Jones. But I think the person is not an ingredient in the single thought; he is rather constituted by relations of the thoughts to each other and to the body." (1) Of course a person does not exist except through its activity; personality is not real apart from its functions; but the person is certainly not simply his thoughts and nothing else. Thoughts are abstractions and have no independent reality apart from a thinker; and no thinker has any reality apart from his thoughts and feelings. Likewise it is not contended that consciousness exists apart from conscious persons. But to say that a thinker is a series of thoughts, mind a series of "mental events", is not a lie so much as to state a half-truth which, when set up for the whole truth, becomes either innocuous or laughable depending upon one's gullibility. Can an event in a series know the series without ceasing to be simply an event in the series? Can consciousness be identified with its states? Is a thinker a series of unthought thoughts? Russell's definitions are like a

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(1) Analysis of Mind, p. 18.

string of beads without a string. It may be that logically, (i.e. logic a la Russell) an entity such as the self can be dispensed with, but I doubt it.

It is evident that whatever we say in explanation of the problem of consciousness presupposes its existence at the outset and that therefore it is, perhaps, indefinable. Self-experience is the irreducible and indefinable without which we cannot start philosophising.

Let us now consider the problem of consciousness from a different angle. In "The Analysis of Mind" Russell says that it is obvious that we must be "conscious of something. In view of this, I should define consciousness in terms of that relation of an image or word to an object which we defined in Lexture XI as 'meaning'." (1) He also states that when we have an image of a past sensation we may be said to be conscious of it. Call this relation f (o). "When this peculiar f is found we have consciousness....From the point of view of the non-conscious object, this if is as unique as an ultimate substance would be. Its relational or functional character will not save the differentia of consciousness from being just as irreducible and opaque as an old-fashioned soul. And it will still have the property of being its own object.

If to be conscious of a certain thing is f (o), then to be conscious of that consciousness is f (f(o)), and if f(f) is an impossibility (i.e. self-consciousness being a

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(1) Ibid., p. 288.

case of the subject being its own object, a thing Russell denies) we are no better off than before. Let us not be deceived into thinking relations or functions a magic tailsman. These terms are useful in analysis, and necessary to enlarge our knowledge; but they simply restate in the above case under relational form the same old contradiction as the substantial form presented." (1) This shows that to put the fact of self-consciousness in the form of relations solves no problem.

We conclude, therefore, that Russell has denied the reality of consciousness, as well as of the self; but in so doing he has done violence to the facts of experience in the interest of an abstract scientic objectivism. In the first place, he really assumes a conscious self throughout his analysis. His assertion that mentality is a matter of degree does not remove the problem: matter and mind are as disperate as ever. In the second place, he holds to what practically amounts to sensationism and insofar as he does he is totally unable to account for the unity and identity of conscious self-experience. He is guilty of abstraction, the fallacy of the universal, and contradicts the most certain of all postulates. His view, in short, leaves us with all the difficulties involved in the problem of consciousness and logically leads to its own contradiction and refutation.

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(1) Wilmon Henry Sheldon, Strife of Systems and Productive Duality, p. 185.

If consciousness is ruled out as the essential ingredient of mind, what, we may ask, is mind? The answer, we have seen, is that mind can be reduced to sensations and images and that images do not differ intrinsically from sensations but only in their causation. Can the mind be reduced to sensations and their relations?

Russell, we saw, is a Realist as regards sensations, but not as regards images. That is to say, he believes that in sensation we rub noses with the stuff of the world. Sensations, or things analogous to sensations, go to make up the physical world, or, better, the real world. This is a most strange doctrine and for two reasons. In the first place, Russell has told us that sensations are the theoretical cores of the original perception or awareness. Sensations, in other words, have no independent reality, but are the products of the mind's analytical processes. Yet, Russell claims that they constitute the real world. In the second place, it is difficult to see how the mind could experience anything directly without some mediating activity. Russell holds that in sensation we have immediate contact with reality since it is the last in the physical series of causes and effects. But the term immediate is merely a word to designate a remarkably rapid process. It has absolutely no epistemological significance. (1) Moreover, Russell nowhere elucidates the relation of these sensations that happen to float into the region of the brain

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(1) Albert C. Knudson, The Philosophy of Personalism, p. 102.

from those that make up the physical world. The whole situation becomes a dark limbo of mysteries. It is, of course, his way of arriving at an epistemological monism; but, as we have seen, as an explanation it is a "broken reed". The term "monism", Knudson rightly says, should be reserved for either a mentalism or materialism. (1) In sensation and in awareness of any sort, the mind plays an active part as mediator. All experience arrives with the stamp of the mind upon it. To deny the creative activity of the mind is to revert to a pre-critical dogmatism. Sensationism, therefore, as Russell construes it, is a theory that does not hold water.

Approaching our problem from the angle of bare perception, let us see where Russell takes us. He concludes the analysis of this situation with the startling announcement that perception does not imply cognition whatever. But let us follow the problem through as Russell presents it. First he asks, what is the difference between saying "I see a triangle" and "There is a triangle"? The first states an event in my life while the second states that there is an event in the physical world. Dismissing the objection that according to Russell's philosophy there can be no difference between the two, let us follow him in his discussion of the first question. When we consider the statement, "I see a triangle", "a moment's reflection shows that both 'I' and

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(1) Ibid.

'see' take us beyond what the momentary event reveals." (1) Since the existence of "I" depends upon memory it is more than we have the right to affirm. The word "see" is likewise fraught with difficulties, "suggesting something dependent upon the eyes." Therefore, all we are warrented in saying is "There is a triangle", or, better still, "A visual pattern occurs." Now this "visual pattern", says Russell, is certainly not a case of cognition. How anyone can put such a statement forward as a true fact is beyond me, for if the "visual pattern" exists, it must exist for someone. It may exist without our knowing it, but in that case, it would be, from our standpoint non-existent. If Russell were to be logical in his analysis here, he would have to say that the word "pattern" is also a universal, dependent upon past experience. The same would apply to the word "occurs", since something must persist through time and be identical with itself for it to say "This occurs". The logical outcome of Russell's reason in the above case is Nihilism. It is a typical example of abstraction, by which all mental awareness becomes denatured. Russell thinks he has reached the irreducible minimum of reality when he arrives by analysis at "a visual black dot". In fact, however, he has evaded the issue at stake; namely, how do we come to arrive at that position or state of affairs by which, or in which, we are warranted in saying "A visual black dot

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(1) Philosophy, p. 207.

occurs"? If there is no knowing subject, no duality, no cognition here, then we dare not affirm it's existence.

We may quote here a few sentences that sum up the fundamental error of Russell's discussion:

> It may be valuable to distinguish various stages of it, (the act of perception) and indicate what seems to be points of departure, but these distinctions are not to be pressed as if they were absolute. For a rational being, perception is not possible without thought, and the first act of cognition achieved by the infant involves thinking... Every perception is so far built up by the mind itself, in accordance with its own nature and disposition. Thus a presentation, if we call it so, is an object of which the subject is aware....constituted as an object by the activity of the mind......Looking at the facts, there is no presentation which is not also a representation, no cognition which is not also a recognition. (1)

There is another respect in which Russell's analysis of perception is open to serious criticism. If sensations are the ultimate existants of the physical world, colors, sounds, all the secondary qualities, must be credited with objective reality. Russell admits as much. (2) This conclusion, however, opposes most of what modern physics would say on the subject. Russell assigns to the eyes, ears, etc., a place analogous to a microscope or any other similar physical medium. On this basis he concludes that the presentations of which we are aware, brain-events, to coin a phrase, must be analogous to the ultimates of the physical world. (3) But this is again to mistake an unusually rapid physiological process for a reality. It is an example of

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(1) E.R.E., Vol. IX, p. 724.

(2) Mysticism and Logic, p. 128. "I believe that the actual data in sensation, ... are ... the ultimate constituents of matter."

(3) Ibid.

crude "picture-thinking", to use a phrase of Wilson's. One of Russell's favorite illustrations is that of a photographic plate. Since it will record an accurate picture of what takes place in the physical world it will do as well as a mind. Thought is registered in "nerve-patterns", mind to photographic plates, and mental events to numerical series causally related. Ergo, there is no creative activity of the mind in perception. In sensation, ultimate reality is given; sensitivity and the law of association account for all mental activity beyond this. Since a plant has "habits", oysters are "mental" and rats can open spring doors, mind holds no unique place in the ghost-world of neutral entities. The superficiality and crudity of this line of reasoning need hardly be pointed out.

We conclude, therefore, that Russell has failed to explain the mind by reducing it to sensations and images. There is the assumption running throughout his analysis that the mind is a region where "mental events" happen to happen; that the brain is a passive receptacle of sensations. It makes one feel as though the brain were a sort of fly-paper on which sensations got stuck and, by virtue of the sticky substance, were associated. As a matter of fact, not only in cognition, but in perception and sensation, the mind is creatively active, selecting its material according to its needs and purposes. It is here that Russell's theory fails conspicuously. In one place he does admit that the property of being directed toward an object is a condition of cog-

nition, "but there is room for great difference of opinion as to the proper analysis of the property." (1) He also admits that all perception is confused and vague and that the element of "attention" must be considered. But as to his view of this "property of being directed toward an object" we are left completely in the dark. And, what is lamentable, "I do not wish just now to discuss the nature of attention." The reader feels that here is a crucial weak spot of Russell's theory of mind; for it is just this power of the mind to deal, organize and select from what is given in perception, that characterizes the mind as creatively active. Failure to recognize that the world we know and perceive is the product of the self responding under compulsion to external stimuli renders much of Russell's writings hopelessly confused, superficial and contradictory. We shall do well to conclude our criticism of this phase of Russell with a question from Hoffding.

> The complex nature of perception affords an important contribution to the determination of the relation between sensuous perception and thought. Since perception rests upon a process which may be described as involuntary comparison, it manifests itself as an activity of thought, by means of which we appropriate what is given in the sensation, incorporate the sensation into the content of consciousness. If, then, an activity of thought is manifested in sensuous perception, it is evident that sensuous perception and thought cannot be two wholly different activities of consciousness. There is no such thing as absolutely passive sensuous perception. What is received into consciousness is at once worked up in accordance with the laws of consciousness. (2)

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(1) Philosophy, p. 203.

(2) E.R.E., Vol. IX, pp. 723-4.

Sensation, perception, the entire knowing process, from beginning to end, thus involves active cognition.

I do not propose to consider at great length Russell's discussion of the problem of memory-images because I feel that although it is perhaps a true analysis of what occurs in memory it is a worthless explanation of the problem. The mental life is made up, as we have seen, of sensations and images, and images do not differ from sensations except in their causation. Prima facie this seems absurd in view of the fact that most images differ intrinsically from sensations: an image of a tooth-ache is always preferable to a sensible tooth ache. Russell says that an image is a copy of a past sensation, which is true. Again "the practically effective distinction between sensations and images is that in the causation of sensations, but not of images, the stimulation of nerves carrying an effect into the brain, usually from the surface of the body, plays an essential part. (1) No doubt this is true in a good many cases, but it tells us almost nothing. The difference between sensation and images being one of physical antecedents is like distinguishing the caboose from the flat car by saying that it follows a box car, or is at the end of the train: such a distinction may be true without telling us a thing about the nature and purpose of the caboose, or about the train as a whole.

Images are of two kinds, imagination and memory-images.

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(1) The Analysis of Mind, p. 151.

Memory-images are characterizes by the feeling of pastness, and are distinguished from simple imagination by the "belief-feeling." In other words, the essence is the feeling of pastness that accompanies the image. The nerve-pattern theory, called the "engram theory" by Russell, finds favor with him. For all I know this may be a true description of the situation; but this too explains nothing. But memory is more than engraving upon the brain tissues. To endeavor to explain memory by "feeling of pastness" and "belief-feeling" is to leave the problem as mysterious and vague as before. Russell says that when we remember what really takes place is that we have two images, one of the image itself and one of the original sensation which is the prototype of the first image. We have, in other words, an image of the image of the image, and so on to infinity. This is only a sample of the difficulty of trying to explain memory by means of verbalism. Nothing short of an enduring entity, a self, an irreducible principle in reality, given in every act of mind, the explanation of and not the thing to be explained, will adequately meet the problem of memory.

The past is a construction of the self out of its own past experience. The past exists in the present only as a construction of the mind. In fact, every experience is a "complex" in which "some features are referred to the past... and some held to constitute the immediate present". (1)

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(1) George Arthur Wilson, The Self and Its World, p.49.

The thesis Russell claims to sustain in his chapter on "Self-Observation" is that "the most reliable way of obtaining knowledge" is by self-observation. This is a most weighty conclusion in view of the fact that later on he cincludes that we get all our knowledge by what is properly called "self-observation". Russell proceeds in his analysis, as we have noted, by dismissing the truth of Descartes' dictum; but there is some truth in it, thinks Russell, namely, that our percepts are what we are most sure of. Watson, on the other hand, is wrong in denying outright the reality of thought. But Behaviorism is correct in three respects: (a) The facts which are publicably observable are the most certain; (b) all publically observed facts are explicable by the laws of physics; (c) all facts known about human beings are known by the same method as the facts of physics are known, because all the "facts of physics, like those of psychology, are obtained by what is really self-observation", though common-sense erroneously refers them to external objects. (1) In other words, introspection as compared with external observation, is like a telephone conversation as compared with a public address; the one is private, the other public.

In the first place, the above analysis leads logically to solipsism. To say that introspective facts differ from other facts by their context or lack of context within a

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(1) Ibid., p. 172.

larger area of experience presupposes that the problem has already been solved. Moreover, it is surprising that Russell should employ the inapt expression, "Self-observation", when the self has been ruled out. Having dispensed with a self, he now re-introduced it without a twinge of intellectual conscience. In "self-observation" we are really observing a part of the "stuff" of the mind. This is impossible in Russell's system since the event called "self-observation" IS some of that "stuff". Evidently if "stuff" observes "stuff" we need two kinds of "stuff", the latter of which is as mysterious as the original self or soul.

Russell next puts the question, "Do we think?" This, however, is obviously an awkward form of the question from his viewpoint. Hence, it is re-phrased; having done this it is possible to draw a true conclusion which, while not doing violence to the facts, does not imply the expression "we" or "think". The question now reads, "Do we know events in us which would not be included in an absolutely complete knowledge of physics?" At the present state of knowledge, Russell feels that he must answer in the positive since thought is more than matter in motion. What Russell wants to do, evidently, is to make a place in his system for thought. If physics cannot explain thought, then thought has a right to be called real. That is, in fact, the conclusion he reaches. There two answers we may put here. In the first place, what kind of reality does thought have in view of Russell's theory of neutral monism, which says that

mind and matter are but aspects or phases or novel combinations of a neutral substance? And in the second place, we would ask, are we to conclude that if physics were able to "explain" thought, as, for example, it explains the law of gravitation, thought would not be real? This would seem to be the implication at least. If this is correct, we would then say that since the mind is able to completely classify and correlate its own laws it would thereby prove itself to be unreal. This sounds not a little absurd, but it is the logical outcome of Russell's reasoning.

Russell is essentially materialistic throughout his analysis of mind, as for example, when he says that in time we shall see that the difference between mind and matter will be analogous to the difference between solids and gases. In his "Philosophy", he mentions the possibility of making Robots with high degrees of intelligence. (1) He does make his neutral monism a substance, if we may use the word, remembering that substance is not admitted by Russell, the ultimate reality to which mind is reducible. This substance is composed of innumerable events throughout space-time. If we knew the distribution of energy throughout space-time, he says, we could know the states of mind of all individuals both present, past and future. Therefore, if physics were complete, it would master the laws of these events in space-time and so ultimately "explain" thought. Whoever doubts

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(1) Ibid., 278.

the materialistic tendencies in Russell, let him read such statements as the following: "Materialism as a philosophy hardly becomes tenable in view of the evaporation of matter. But those who would formerly have been materialists can adopt a philosophy still that comes to much the same thing in many respects. They can say that the type of causation dealt with in physics is fundamental, and that all events are subject to physical laws". (1) This is the type of materialism to which Russell adheres. In the first section we saw that Russell said that there was nothing in mind that made it incapable of being a part of the world of matter. This sounds very much as though Russell might be classed as a modern materialist. Russell claims that the neutral entities are more "mental" than the old-fashioned matter, but, as we shall see, neutral monism, is a purely verbal solution of the problem. Insofar as Russell is a materialist, he is open to the devastating criticisms of materialism. There is no materialistic system which, when consistent with itself, does not break down internally as well as fail to give any account whatever of the facts of experience. There is no way of arriving at the mental from the material and there is no way of reducing the mental to the material without its ceasing to be what we know it as. Mechanistic explanations give us a closed system with no chance for change or growth; it becomes mere verbalism.

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(1) Ibid., pp. 159-60. See also Our Knowledge of the External World, p. 245.

Russell, we remember, defines "will" as a characteristic of a string of actions; but the same could be said about the process of digestion. The explanation of Russell's materialism is, of course, his underlying assumption that science tells the whole truth about life and experience. To make philosophy the chambermaid of science, naturally leads us into what amounts to materialism. It would be wrong not to mention, however, that at times Russell is practically a Berkeleyian idealist, as when he makes a physical object the sum of its appearances. In fact, he is not sure that he is not one.(1) His view seems to change with his mood. On the whole, his is a sort of ghost-world and nothing about it is very certain except that we can be certain about nothing.

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(1) Ibid., p. 290.

CHAPTER VI

Theory of Reality

It is, of course, impossible to say just where Russell's theory of mind and his theory of reality can be separated from one another. The problems of philosophy are so inter-related that organization must be in a measure arbitrary and artificial. In our discussion of Russell's views of mind we had occasion to note that he was a neutral monist and a logical atomist. We saw that all reality is made up of "events", that "things" are really "systems of particulars", that universals are real and that mentality is a matter of degree being manifested in the lower as well as the higher forms of life. We saw that all mental life can be reduced to sensations and that the world is made up of things very analogous to sensations as regards extent and duration. In our outline of Russell's theory of reality, we saw that starting with certain indubitable "hard" data it was possible to build up a logical and hypothetical world of constructions that

might be "real". Reality, in short, tended to become a system of logical constructions and relations. We must now criticise Russell's views as to what ultimate reality is.

It is because Russell's writings are so subtle and elusive that one finds it very difficult to find just where one can take issue with him. Nowhere does Russell distinguish clearly between "events", "particulars", "appearances" and "sensations". We are led to believe that these are more or less similar in meaning and that their difference arises by reason of the various angles of approach. From the point of view of the external world we may have events; of sense-perception, particulars; of mental analysis, sensations. I do not know whether Russell would agree with me or not. But the relative status of events, particulars and sensations is left vague and confusing. Nevertheless, we must consider several problems that arise in this connexion. Among these will be the problem of error which arises out of Russell's views of perception, causality, substance, and the theory called neutral monism.

We saw that in Russell's discussion of sense-perception the so-called object of perception is not a single persisting external object, but IS the system of appearances to which a common-sense object would give rise but doesn't. There is no external thing which causes our perception, but the thing is the system of appearances. What happens when I see a star is that light rays travel from a point in space

where the star is said to be but is not, to my sense-organs and by way of the nerves to the brain. Here in the brain the last event in the causal chain is a perception called "seeing a star". This event or "particular" is one of a system of "particulars" which when correlated, to go make up the real star. Now, if this is correct, it would seem that error is as much given as is truth. In fact, Russell does say that dreams, centaurs and the like are real; they differ from other objects in that they cannot be correlated with outside objects. This, however, is not a convincing criterion. As a statement of a formal difference it no doubt stands. We have no way of testing whether or not a given perception correlates with others except as we test it out. It is just the characteristic of error that it is taken to be real. Russell says that there is no logical reason why all life is not a dream; but then, if this were true, the conception of reality and unreality, error and illusion would never arise. He says again that error is often due to defective sense organs and no doubt this is correct; but it does not go to the root of the difficulty since sense-organs are themselves known only by our perception of them. The same applies to the mediums, atmosphere, through which light rays must travel to reach the brain. The stick which in the water appears bent is explained, according to Russell, by the presence of a deflecting medium. But the medium itself is made up of a system of particulars which, in turn, has to be explained.

Again, in Russell's theory of sense perception we are led to assume the reality of secondary qualities. This is strange in view of what physics has to say on the subject. But since the thing IS its appearances, we must say that colors and sounds are objectively real.

We are, therefore, forced to conclude that in the theory Russell has given us there is no adequate accounting for error and illusion. Whatever is presented to the mind must, by definition, be real. The relation between existences and reality is nowhere drawn except to state that what exists must be real. As we have already remarked, if all we know is inside our heads, then there is no way of getting outside and all Russell's elaborate analyses break down. (1)

We have had occasion to see that causal laws play an important part in Russell's philosophy. Images were distinguished from sensations by their causal laws. Events in the mind were differentiated from events in the external world by "mnemic causation"; a thinker was a series of thoughts causally connected; a piece of matter was a series of events developing according to an "intrinsic causal law", and so on. It, therefore, becomes necessary to state more precisely just what the nature of cause and causal law is.

"The law of causality", says Russell, "I believe, like

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(1) Note: This is not to be confused with the problem of truth and falsehood. Russell's view of this problem was that words and beliefs are true if a person who knows the language uses those words when in the same situation to which the words would apply if true. I do not consider this verbalism worth discussing. Unfortunately much of Russell is as shoddy.

much that passes muster among philosophers, is a relic of a bygone age, surviving like the monarchy, only because it is erroneously supposed to do no harm". (1) There are two types of causation that must always be distinguished, productive or metaphysical, and scientific or descriptive. A third type is mentioned. It is the common-sense view that a force somehow passes from one body to another, as when a billiard ball strikes another billiard ball. (2) Russell holds to the scientific type only from the standpoint of theory. But he conspicuously fails to dispense with productive causality in his philosophy. Although he explicitly denies anything of the kind, he consistently employs productive causation throughout his works. There are two phases or aspects of the problem of cause that may perhaps be distinguished in Russell's works, although one leads to the other. There is first the statement that cause is but an empirical generalization, and second, the statement that the universe is a closed, mechanistic interrelated and non-temporal system.

In the first place, it is necessary to eliminate from our thinking all idea of compulsion or violation. Causes do not operate. There are simply observed sequences. While Mill spoke of "necessary connexion" it is obvious that he

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(1) Mysticism and Logic, p. 188.

(2) G.A. Wilson, op. cit., p. 64.

went beyond a strict empiricism. A cause is never seen and it is not necessary to assume its existence. In any frequently observed sequence it is possible to speak somewhat loosely of the preceeding event as the cause and the later one as effect. But this belongs to an early and practical stage of scientific progress. A causal law in Russell's sense is any case of sufficiently frequent sequence. "By a 'causal law' I mean any proposition in virtue of which it is possible to infer the existence of one thing or event from the existence of another or a number of others. If you hear thunder without having seen lightning, you infer that there, nevertheless, was a flash, because of the general proposition 'All thunder is preceeded by lightning'" (1) It is easily seen, then, that what we have to deal with is the principle of inference and, as we have seen, all inference is a matter of degrees of probability, the degree depending upon the infrequency of past occurrences. The inductive principle, as we have also seen, must in the nature of the case be in part a priori.

The conception of cause that Russell now puts forward in place of the "traditional" viewpoint is briefly this: It is first necessary to disregard the element of time: the effect may precede the cause or vice versa. We then have a system that is determined throughout because it is subject to laws. Sequences are observed and where laws formulated

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(1) Our Knowledge of the External World, p. 231.

therefrom fail, it is always found that there is some larger, more inclusive law to take care of the exception. The state of the system must be a function of the states of the system in the past. But the time element will not enter into the formula which expresses that function. In strict science cause comes to be expressed in formulae and differential equations. "Certain differential equations can be found, which hold at every instant for every particle of the system, and which, given the configuration and velocities at one instant, or the configurations at two instants, render the configurations at any other earlier or later instant theoretically calculable. That is to say, the configuration at any instant is a function of that instant and the configurations at two given instants." (1)

In the above quotation we see that the idea of cause and effect has practically disappeared. If we were to state fully the cause of an event, we should have to take into account the whole state of the universe at that instant. If I put a penny in a slot machine, we may say that it causes the gum to come out. But between my depositing the coin and the receipt of the gum there may be an earthquake. A cause must be such as always works and in this case, it was not such as to insure the effect. Hence, it becomes almost impossible to preserve the old notion of

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(1) Mysticism and Logic, p. 194.

cause as "necessary connexion" and we can have only theoretical calculations as to the samenesses of relations that hold between groups of events. Meanwhile, causal laws are but observed sequences which enable one to expect their recurrence in the future; but there is nothing necessary and universal about them. They are "lucky, not necessary".

The above outline of Russell's views of causality is not as complete as it might be, but it gives in substance what is to be found in his books. There is nowhere any comprehensive statement of how metaphysical causation is to be conceived. For a statement of scientific causation, Russell is illuminating. But as applied to philosophy, such causality becomes mere tautology. It is only dogmatism and a refusal to face the ultimate issues of metaphysics is to substitute magic for rational explanation. Things or events simply come and go in a sort of timeless flux with no reason or cause.

That Russell does not himself live up to such a philosophically barren conception of causality is evident the minute one reflects upon his system. Perception was the last event in a causal chain; but we have no right whatever to suppose that the perception in any way corresponds to the external object. "Mnemic causation" was defined as the principle that took into account the influence of the past, but the word "influence" is manifestly a form of cause. To define things in terms of events connected by causal laws becomes tautology

when we consider that causal laws were defined as observed sequences. It is because Russell oscillates back and forth between mechanical and scientific and volitional or productive causation that makes it difficult to follow him. To say that a piece of matter is a string of events causally connected is to repeat oneself. Russell explains at length how images and sensations and perceptions are produced and he assumes throughout the common-sense notion of cause. But when it comes to philosophical formulations and definitions, they are usually framed so as to avoid the category of cause. The result is that we have such definitions as a thinker is a series of thoughts causally connected, which is verbal hocus-pocus.

With the conception of cause that Russell gives us, it is not possible to explain the first act of thought or experience. Change and identity become irrational terms. We have merely a magical becoming without ground or rational explanation. Substance is a category denied by Russell, but it is impossible to do away with it. According to Russell, all we have is certain connections among the phenomena of experience. He says nothing about metaphysical causation. For him, presumably, the reality of the world is exhausted in its presentation to persons. There is no reality beyond that which we know and the logical constructions based thereon. Causality in the only sense in which it has philosophical value means dynamic causality. Logic, of course, is static: it is but a system of mutual inclusion and exclusion, determined throughout. It is in the interest of his

system that Russell has to deny causality in the productive or volitional sense, for obviously, growth and change are embarrassing to a rigid and static logical system. The idea of purpose is abhorrent to logical systems. Hence, Russell rules the idea of dynamic cause out. The will, we have seen, does not figure in Russell's system. We have nothing except a groundless becoming that is attended with all the mystery of supernaturalism. Bowne said of Hume, that he is hopelessly inconsistent, "for nothing arises from anything, or is due to anything; but certain things were, and certain other things are; but in the sense of a determining connexion, nothing is because anything was, but everything simply is, is for no reason whatever." (1) On such a view, perception itself becomes impossible; things would be non-existent and experience would fall into chaos. The end would be Nihilism. Causation, therefore, cannot be dispensed with in any philosophical system.

We hold that causality is meaningless unless interpreted in personal terms. The scientific conception of cause may give the conditions under which things occur, but it has nothing to do with the efficient or productive cause. To ascertain the relations between events, tells us nothing of the cause which underlies their occurrence. Although we never see cause, it is necessary to affirm it in order to give a rational and consistent explanation of experience.

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(1) Personalism, p. 164.

Change, for example, is unthinkable without an entity that persists. There is no time without something that persists identical with itself through time. Being must have a stable principle behind it. Without cause as we know it, without ground and substance we shall have to say that events happen at random. Russell implies as much when he says that an event need not have an antecedent. But even Leucippus recognized that things must have a reason. But how we are to think of this reason is not clear. For Russell, evidently, it is mere logical or rational necessity. But this is not an explanation at all. It is only as we put the problem on the personal plane that there is any meaning in it. In the conscious self alone do we experience true productive cause in the sense of being free to order our experience. In the self, then, we find a clue to ultimate metaphysical cause. In Personalistic philosophies, this is ascribed to God who is the constant energizing power of the universe. Furnished with an external stimulus, our reactions to these stimuli ARE the objects of our perception. But this is not the place to go into that subject.

We conclude, therefore, that Russell's theory breaks down as regards the problem of causality in two points: He uses the conception of productive causality although he has formally ruled it out; and, insofar as we adopt his statement, of cause, our philosophy degenerates into barren tautology and verbal hocus-pocus and we are left with insoluble difficulties on our hands.

This brings us to a consideration of neutral monism as a theory of reality. As we have repeatedly observed, Russell's theory of reality is that of a neutral "stuff" which is metaphysically primitive, a sort of common ancestor to mind and matter. This solution of the problem is, however, purely verbal. It rests upon a belief that by abstraction you can level down all the elements of experience to a common abstract homogeneous form so as to merge them into each other by means of an artificial monism. Upon examination, neutral monism appears to be a verbal solution of the problem.

Like Spinoza, Russell would make a common substance the ultimate reality; but, like Spinoza, it is a verbal unity. For mind is mind and matter is matter. To force either or both into common logical forms is not possible except on paper. For what, precisely, is the relation of mind and matter in Russell's system? They are supposed to have their common seat in a neutral "stuff" which is made up of innumerable entities. The question then arises, are we to think of mind and matter as mutually independent or interacting? If the former, there is no way of rationally construing the relation of one in the other. One will have to be swallowed up in the other. If, on the other hand, mental activity is wholly self-contained, there is no way of accounting for the parallelism of physical and mental activity; in fact, there would be no reason to affirm physical activity at all. We would then have a Leibnitzian

universe of monads or souls. Our other choice would be to deny the reality of the mental altogether and to say that the physical represents the ultimate reality. Thus, mind would have to be construed as a "powerless accompaniement" to the physical series. From this viewpoint, mind "in and of itself does nothing and from the causal point of view is nothing". For the mind to cause anything would be to become more than the accompaniment of the physical series. Mind, according to this view, would take on the character of magic, would be an ineffable mystery. (1)

Or if, on the other hand, we grant that there is interaction between mind and matter, we come into conflict with Russell's self-contained system of externally related entities. For to admit that there is interaction is to assign some form of causal energy to the mental, and so we are again faced with the problem as to which is the controlling series, the physical or the mental. Moreover, if we admit that mental events are merely the private and uncorrelated events that happen to have the qualities of sensitivity and reproduction by association, we have trouble in conceiving them. For it is not clear how these events happen to be OUR thoughts and feelings. (2) Russell speaks of a thinker as a bundle of thoughts, but there is no explanation as to why they happen to be in such and such groups

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(1) Albert C. Knudson, op. cit., pp. 348-9.

(2) Ibid.

and bundles. We must conclude that neutral entities are logical construction based upon abstraction and while perfectly capable of fitting into a preconceived system of logical relationships are nevertheless useless as explanations. Regardless of how the doctrine of neutral monism is stated the above difficulties are bound to occur. Russell nowhere explains the nature of the neutral "stuff". Neither experience nor reason gives us a clue as to its nature. It acts in two incommensurable ways, but otherwise it is hidden from us.

As for Russell's hypothetical Leibnizian universe, we may perhaps say that it has no necessary relation to reality. We recall that the common-sense objects were the "systems of particulars" and that these particulars were the perspectives that exist whether a person happens to perceive them or not. The "thing" was the system of appearances of the thing and not a thing as ordinarily understood. Thus, the physical world was reduced to momentary qualia into which perception can be analyzed.

In the first place, the system here constructed presupposes throughout the common-sense world. It could not be constructed in the first place without the assumption. The notion of perspectives, for instance, could not otherwise be arrived at. "It is significant that we cannot state Russell's theory....without continuing at every step to presuppose the common-sense world, and using it to give meaning to our description. With this world assumed, an

object would of course be found appearing under various forms according to the position or the distance of the observer; and these appearances might be arranged in series, such as could be used to define the location of the object which they presuppose, and on which their character depends. But just because the undertaking is equally compatible with two hypotheses, its success cannot be used to give one of them the advantage over the other. This advantage can only come, again, from an initial presumption against existents; and for one who does not share this presumption, Russell's attempt will only go to show---what hardly needs proving----that when we have analyzed a complex situation into elements, we can reverse the process in a way to redefine the whole into which the elements enter." (1) In other words, the outcome is inherent or implied in the original data. Having defined his data so as to fit into the system, it is quite natural that the system will account "adequately" for all the data. But for one who is interested primarily in the real world and not logically manipulated schemes, this will not be very convincing.

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(1) Arthur Kenyon Rogers, op. cit., pp. 436-7.

CHAPTER VII

Russell's philosophy is vitiated at the outset by his very conception of the nature of philosophy. His is the scientific ideal; ours would not ignore science but would go beyond it. For Russell, logic is the essence of philosophy; for us, although reason dare not be illogical, life is prior to logic. In the philosophy of Russell, the real is the concrete and particular. Science deals with form and structure and the interrelations of things. True philosophy should seek to interpret and not merely describe. Russell avoids metaphysics where possible; we hold that it is only a matter of good and bad metaphysics. Perfection in Russell's estimation lies in logical form and consistency; we test our philosophy by its ability to give a rational and coherent interpretation of life. We regard philosophy as a thing to deal with life as a whole, including its values; Russell rules out value as having any significance whatever. We hold that philosophy is more than deduction from

arbitrary premises; Russell creates a system of logic that makes of reality a sort of descriptive geometrical necessity. Hence, there is a strain of empiricism, positivism and skepticism running throughout his writings. In the end there is nothing left but a "black dot" that magically appears only to disappear. We may quote Rogers at this point:

> Typically two conceptions have been predominant in the history of thought---the psychological, and the logical. For the one, reality is to be interpreted as experience---standing for the actual stuff of human living----For the other, the traditional demands of the dialectician are supreme, with the result that reality itself tends to turn into a system of logical relations such as will satisfy these demands. As against both these ideals of method, I have assumed constantly that the business of philosophy is to clarify and to bring into harmony, but also in the end to justify substantially, the fundamental beliefs that are implicated in our normal human interests; and that this reference to the needs of living, in a wide and generous interpretation, furnishes the touch-stone by which alone the sanity of philosophical reasonings and conclusions can be tested......While philosophy aims, of course, at logical consistency, thought or logic, is an instrument, and not the constitutive stuff out of which the world is made; and even as an instrument, its conclusions, in the hands of human thinkers, are too fallible and precarious to be safely substituted for the convictions by which human life and human values are sustained. (1)

Eddington gives us a real insight into the abstractness of pure science when he relates the incident of an elephant sliding down a hill. If the animal weighed two tons, the occurrence would be scientifically stated as two tons (which is a pointer-reading of scales) moving in relation to an angle of sixty degrees (which is a pointer-reading on a protracter). And, he concludes, "The whole subject-matter of exact science consists of pointer readings and similar indications....And if you think that this substitution has taken away all the reality from the problem, I am not sorry that you should have a foretaste of the difficulty in store for those who hold that exact science is all sufficient for

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(1) Arthur Kenyon Rogers, English And American Philosophy Since 1800, pp. v-vi.

the description of the universe and that there is nothing in our experience which cannot be brought within its scope". (1)

Having now seen that to substitute science for metaphysics is to run away from reality, let us look more closely at the logico-analytic method to see if we do not find here limitations of a very similar nature.

We can hardly credit logic with the independent validity that Russell claims for it. Logic is the product of the mind's need for dealing with its problems; it is the science of inferences based upon other judgments which logic does not legislate. Keynes points out that logic partakes of the mind's own constitution and nature.

> Some parts of knowledge---knowledge of our own existence or of our own sensations---is clearly relative to individual experience. We cannot speak of knowledge absolutely, only of the knowledge of a particular person. Other parts of knowledge, knowledge of the axioms of logic, for example, may seem more objective. But we must admit, I think, that this too is relative to the constitution of the human mind....Further, the difference between some kinds of propositions over which human intuition seems to have power, and some over which it has none, may depend wholly upon the constitution of our minds and have no significance for a perfectly objective order. (2)

Logical axioms and deductions are not as independent of the human mind as Russell holds. Moreover, the choice of data for logical manipulation is limited to such as will admit of logical treatment. This is one reason why such irrationals as growth, change, values, etc., find no place in Russell's static and logical system.

Not only must the subject-matter of logic be reduced

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(1) A. S. Eddington, The Nature of the Physical World, pp. 250ff.

(2) John Maynard Keynes, A Treatise on Probability.

to formal entities that are in themselves abstraction; Russell goes further and assigns reality to universals. This is a strange combination in a realistic philosophy. Platonic realism was prominent in Russell's earlier writings and lingers in his later works. This "fancy", as Bowne terms it, that universals have ontological being, is a fallacy of abstraction. (1) The real is the concrete and particular. Universals do have their place and are useful so long as we do not attempt to set them up as independent reals. Universals are ideals of our cognitive nature and are discarded when they are no longer serviceable. They have their origin in our need for dealing with objects in classes. Relations also are given an independent reality; but here again there are no relations apart from the objects related. Abstraction is Russell's cardinal sin.

Again, Russell fails to account for qualitative differences; he does not succeed in expressing such differences in formulae. By putting judgments into equational form, he transforms quality into quantity. We have had occasion to see this illustrated in his custom of arranging things in series: a thinker was a series of mental events; mentality was a matter of degree, etc. The "event" appeared as the final abstraction of reality, being ideally related within the system. Having reduced everything to "event", Russell was enabled to build a self-consistent system. But when it

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(1) Borden Parker Bowne, Personalism, p. 238.

comes to interpreting the familiar facts of experience in terms of these "events", it cannot be done unless, indeed, we are willing to accept his original definitions of the data of experience. Russell has arranged everything in the universe, from a flash of lightning to beliefs, desires and hopes, to a series of logical entities; but they have no more relation to reality than a counter in the checker row has to the king of England, if as much. To make arbitrary entities the formal essence of logical propositions and deduce their mutual implications may be excellent mental exercise, but it is not philosophy.

A purely formal logic is a logic of external relations. It claims to have thrown off the limitations of space and time and hold good for all possible worlds. It must deal with terms "as if they were units unmodifiable except in position, expressions to be combined or transposed as wholes, and without intrinsic modification" (1) Russell hardly lives up to his doctrine of external relations, however, for he speaks of one word "meaning" another; the "influence" of the past; and of "sense" in the direction of a relation and its converse. Bosanquet is worth quoting here for an understanding of Russell's Formalism and externality of relations:

> As the foundation of the science (Formal Logic) you get a number of indefinables and of unproved premeses, assumed for reasons of convenience--that is to say, with a view of leading proofs from them in the simplest and neatest way. And as the goal of the science you get an enormous command over the forms of deductions applicable to propositions which themselves, though always general, are unchang-

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(1) Bernard Bosanquet, Logic, Vol. II, p. 42.

> eable units. You have no such phenomenon as a system and certainty is always ahead of their given form, and makes itself felt as an impulse to self-transformation and completion in other forms. On Mr. Russell's philosophy, I presume that a proposition would not be an entity capable of embodying such an impulse (not being in any way mental) ....Whether a proposition is mental or not, and whether or no we subscribe to pluralism, the proposition for Formal Logic is a fixture, in relation with others, but alike in truth and import independent of them. Thus there is no idea of developing a system, or indeed, anything whatever, from a single point. (1)

Thus we see that Russell calls himself a piecemeal pluralist: the assumption of system is wholly illegitimate. Nevertheless, he does arrive at a system, and a closed system. I doubt if Russell could go forward very far without the idea of a system. The system he does achieve is a plural unity, but insofar as it is a true system, the doctrine of external relations breaks down.

Logical atomism and its doctrine of external relations cannot deal adequately with all the problems of philosophy. There is no accounting for growth and change within such a system. It is purely a deductive system. What is given must always be. Its abstractions have no counterpart in reality. When it comes to explaining individuality, the doctrine of external relations is helpless. "Given a thing with an inner nature of its own, with predilections, or anything that would make it something for itself, then we need concepts for its description which pass beyond mathematical formulae. Science abundantly recognizes that; but when it does, it ceases to be quantitative and becomes

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(1) Ibid., pp. 47-8.

qualitative". (1) Entrance into the system of Russell can be had only at the price of an abstraction that does violence to reality. To define things in terms of relations of logical entities may be conducive to logical economy and do away with the categories of substance and cause; but only an arbitrary definition will press the concrete reality into the forms of its preconceived definitions, definitions that have been phrased into the first place to fit into the system. Furthermore, "when one finds various new and startling information about this or that familiar category put forward as the indubitable testimony of logic, and then turns to the category itself only to learn that, in order to insure these consequences, it has to be defined in a way that shows only a remote connexion with his familiar human meanings, he is at a loss to find out whether he has really found out more about the world in which he lives, or whether he has found out only what follows from a set of definitions that make no pretense of conforming to his natural convictions."(2)

We conclude, therefore, that logic cannot be the essence of philosophy. Only when we grant Russell's assumed superiority of logic are we able to follow him. But logic, we have decided, does not have first place. It cannot validate its own superiority. We admit that no philosophy dare be illogical. But whether formal conditions laid down in such

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(1) E. R. E., Vol., V, p. 348.

(2) Arthur Kenyon Rogers, op. cit., p. 432.

a way as to meet certain logical outcomes, is to crowd out the fundamental human demands is for the individual to decide, not logic itself. (1) Since Kant, the absolute and "divine sovereignty of mathematics," and, we may add, of mathematical logic, has at least been open to question. Russell reaches the climax when he tells us that two and two are four whether we think of it or not. I have no idea what such a state of affairs could mean. Mathematics arose in response to practical needs: witness the ancient art of surveying, geometry and astronomy. Of course, the principles of mathematics do have an independence of their own; but not of the absolute sort that Russell ascribes to them. In the anxiety of Russell and the Neo-Realists in general to establish the point that the mind makes no difference in what is known they have forgotten, apparently, all that the critical insight of the ages has yielded; namely, that mathematics, logic and experience itself, are the products of the self in cooperation with the material given it, and worked up according to the nature and constitution of the human mind. The Realists forego being critical in the interest of science; but in doing so they fall in to a sort of "delighted medievalism". The fact that they have reduced all of creation to "black dots", "quasi-number series" and geometrical patterns, is itself a tribute to the tremendous creative activity of the mind and imagination. But what such a system as Russell gives us could be without a thinker is beyond the power of my comprehension, and Russell's too.

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(1) Ibid.

Summary of Thesis

Chapter One

Four motives underlie the philosophy of Bertrand Russell. These are the reaction against idealistic philosophies, the scientific interest, the logical interest and the mathematical interest. The idealistic or value philosophies are motivated by religious and ethical motives instead of the desire for impersonal truth. They assume needless metaphysical entities; their logic is faulty and out of date. Philosophy must become a science by the adoption of the method of science; that is, it must rule out men's softer nature and be strictly intellectualistic and objective. In short, philosophy must be essentially logic, or the finding of those most general entities and relations that are true for all possible worlds. Therefore, the main task is that of analysis and abstraction and the discovery of abstractly tenable hypotheses. The new logic is not essentially different from pure mathematics. Both disciplines have a common logical foundation. In pure mathematics we enter the realm of the eternally true, unspoiled by man's paltry imperfections. The ideal world, therefore, is a world of abstraction and pure logic. The vision of such a world of abstraction and pure logic, fused with Russell's vivid emotional temperament becomes an austere mysticism.

Chapter Two

Before a proper analysis of mind can be undertaken, it is necessary to do away with a "subject" and "consciousness". In any act of knowing all that analysis reveals is made up of sensations and images, but images differ from sensations only in respect of causation, not intrinsically. In sensation we experience a part of the real world. The world is made up of things analogous to sensations as regards extent and duration.

Consciousness is not an essential ingredient of mind. We can learn much about the mind by Behavioristic methods; but Behaviorism falls down as a final philosophy because it denies introspection. The "unconscious" lends weight to the argument that there is no consciousness. There may be consciousness in the sense that a sensation or image is related to a word or "meaning"; but consciousness in the old sense dissolves under analysis.

Mind is a complex of events that are characterized by sensitivity and associative reproduction; that is, mind is distinguished by its mnemic powers. Mnemic causation applies to those respones of the organism which cannot be accounted for without taking into account past experience. Probably in the future mnemic phenomena will be explained by nerve-patterns in the brain. There is nothing in mind that makes it impossible to be a part of the world of matter.

Mental events, are, in fact, differentiated from non-mental events by the degree of correlation that exists among them. Images, for example, are private and cannot be correlated with other people's images; sensations are public in the sense that they can be correlated with other sensations in the external world.

It follows that introspection as a peculiar form of knowing vanishes. We get all our knowledge by something analogous to introspection. That is to say, in all perception, we observe an event in our brains; we witness a part of the "stuff" of the brain. Nevertheless, thought is "real" in the sense that even if we had a theoretically complete knowledge of physics we could not account for it. A person could observe a brain but the movement in the brain would not be identical with the thoughts in that brain because all the observer really knows is his own brain.

When we speak of causal laws, we do not mean to imply that there is a force of any sort present. Cause is merely an observed sequence which enables us to make probable generalizations regarding the future. There is nothing necessary or universal about causality. When we say that the table "causes" our sensations, we are saying more than we have a right to say because the table is not "out there": the table IS the system of its appearances as it appears to all possible spectators. Therefore, the common-sense "thing" is a system of particulars which exists at any given instant. This gives rise to two classifications of particulars:

"things" and "biographies". Perception of an object would be, then, the appearance of an object from a place where there is a brain, sense organs and nerves forming a part of the intervening medium, and characterized by the fact that they give rise and are subject to mnemic causation.

An image is a copy of a past sensation. A sensation is the theoretical core of a perception, the part not due to mnemic causality. Sensation is not to be differentiated from the sense-datum. Therefore, all duality in the knowing process vanishes. In sensation there is no element of cognition.

Memory-images are those which are accompanied by the "feeling of pastness" and the "belief-feeling". Imagination is a novel combination of past sensations that are not believed in. Memory is a matter of degree ranging from unconscious memory and faint familiarity to true recollection.

Belief is defined as a form of words related to a feeling or emotion; it is merely a characteristic of a string of actions. A true belief or statement would be one made up of words that apply to the situation if true.

Emotion is mostly a matter of glandular activity. Desire is not something held in the mind but a course of action that results in a state of quiescence for the organism. Desire becomes "conscious" when it is accompanied by words. Will is not mysterious but simply is a voluntary movement accompanied by an idea and kinaesthetic sensations. There is no mental phenomenon that cannot be reduced to sensations.

Sensations, in turn, are a part of the physical world. We thus meet a mutual merging of mind and matter. On these grounds we are led to affirm that the ultimate reality is a neutral substance.

Chapter Three

Historically, metaphysics comes before epistemology, but logically, the order is reversed. The irreducible minimum with which our speculation must begin are the data of perception. Using the bare data of perception, which is the most certain thing we know, is it possible to account for the physical world? Yes, by analyzing everything into events. Then mental and physical events will differ only as to causality, not intrinsically. The method used in the logico-analytic method which reduces everything to the most general terms, and, by logical construction, creates a system that will account for the facts of experience and the conceptions with which physics deals. In the creation of this logical universe it is necessary to build upon our "hard" data; that is, sense-perception and the truths of logic. Also, it will be necessary to assume the existence of other minds, although this concession is begrudged. The hypothesis advanced to explain the world we experience, and to justify the world of physics, is the Leibnitzian universe of systems of particulars or perspectives. A thing is made up of all the appearances that would normally be said to be of the thing, appearances that are actually experienced and

also appearances that do not in fact appear to anyone. On this basis it is possible to account for the fact that the same thing appears differently to different people; to construct, logically, the points and instants with which mathematical physics deals; and to make a place for verification in physics such that physics will be "true". Since this logical system is not contradictory to experience, it may be real.

In such a system, mind will be that complex of events which appear in the region of the brain and are subject to mnemic causal laws. These events will be peculiar in that they give rise to the knowledge-reaction; but "mentality" is a matter of degree being evinced in all forms of life. Thus, we are led to the theory of neutral monism and logical atomism: the world, in other words, is made up of many entities externally related, but these are of a common nature or kind.

Chapter Four

Knowledge is of two sorts, knowledge by acquaintance and knowledge by description. The former includes our sense-data, and the truths of logic. In addition we have knowledge of universals or general ideas; these are said to subsist, or "have being". In knowledge by description we have knowledge of truths. The chief importance of this type is that it enables us to pass beyond what is immediately given to new knowledge. This involves induction.

Induction cannot be based wholly upon impirical evidence, but is in part a priori, though experience may justify it. Included in a priori knowledge are: logical principles, certain ethical principles and all pure mathematics.

Traditional logic regarded qualities as the only true universals; not relations, are seen to be universals; Such universals subsist, are neither mental or physical. The world of existence is vague and fleeting; the world of subsistence is the world of pure being. This represents an earlier Platonic strain in Russell. It has since dropped out.

The new logic, when applied to philosophical problems, is capable of perfectly objective and true results. The new logic is deductive, capable of embodiment in maxims and rules. It is, in fact, a branch of mathematics. The fundamental principle is that of abstraction. That is, instead of assigning a common quality to a group of objects, the group is defined so as to make mere membership in the group serve the purpose of common quality. The new logic is purely formal; that is, it is concerned with propositions and their formal implications. The particular subject-matter is unimportant. The real facts are irrelavent. The form is all that is needed. Traditional logic expressed all propositions in the subject-predicate form; but when it comes to relations such as "larger than this", and so forth, the subject-predicate form is inadequate. To prove this point all we have to do is classify relations into symmetrical, non-symmetrical and asymmetrical on the one hand; and transitive, non-transitive and intransitive on the other hand. It will then be seen

that asymmetrical relations cannot be expressed in the subject-predicate form. Thus the relation "greater in magnitude" might be made a property of the terms, but it would not tell which term was the greater. The term "different in magnitude" cannot be made synonomous with the term "greater magnitude". Therefore, the traditional logic fails to account for asymmetrical relations.

Relations are simple and complex. A fact may assign a quality to a thing or state a relation between two or more things. A proposition is an assertion expressing a fact. There are atomic facts and propositions. The particular facts of sense are atomic facts. But logic, on the contrary, is concerned with pure form, not atomic facts. Hence logic is at the pole opposite empirical facts. A proposition made up of two or more atomic facts is a molecular proposition; such as, for example, "If it rains, I shall bring my umbrella." But the truth of such propositions does not depend upon the truth of the particular constituent facts.

The two fundamental characteristics of Russell's logic are the principle of abstraction and the doctrine of external relations. External relations are those in which the constituents or terms of the relation are not affected by the fact that they are related; they undergo no modification in virtue of their relation.

Chapter Five

Russell has no satisfactory solution of the problem of consciousness, nor does he succeed in doing away with the

self. In spite of his denial of conscious selves, he assumes them consistently throughout his philosophy. Roughly speaking, there are two weaknesses in Russell here. His theory of mind which he advances to make up for conscious selves breaks down internally; and it fails to account for the facts of experience; it fails to solve any problems. Although Russell denies a person it is evident that to do so is to abstract the mental state from the subject of the state. Mental events, in other words, cannot hang in mid air. Unless they exist for some one they are non-existent. Conscious states are not identical with themselves. There must be a person to have them.

Without a self, the unity and identity of experience cannot be explained. A thinker may be a series of thoughts but to know this, he has to become more than one event in the series. Experience, memory, time, change, life as we know it itself, needs a conscious persisting entity like the self to explain it. For it is obvious that the self is presupposed in all explanation and cannot itself be explained away, unless, indeed, we allow the validity of abstraction.

Russell fails to eliminate the duality of the knowing process. By identifying the sense-data and the sensation he endeavors to do so; but the attempt is futile. The duality is implied in the stimulus-response situation and in Russell's description of the causal chain leading from the external object to the brain. Knowing is inescapably

a subject-object relation.

In Russell's theory of consciousness, we found that he is contradictory. Insofar as he admits a relational view of consciousness, we are involved in an infinite regress when we try to explain how we can be conscious of our consciousness. Consequently we are left with a relation that is as opaque as the old-fashioned soul.

In Russell's theory of perception, we found that as an explanation it was crude in the extreme. In the first place, the view that all we know is in our heads leads logically to solipsism. If it were true, Russell's elaborate analysis of the physiological process breaks down. There is no accounting for error. There is no reason to believe that what we come to know has any correspondence whatever with the external world.

Russell is a Realist as regards sensations, but not images. But to say that in sensation we rub noses with reality is to make two bad errors. In the first place, it is to mistake a rapidly completed process for immediate knowledge and in the second place it disregards the creative activity of the mind. All that we know comes to us with the stamp of the mind upon it.

Russell holds that sensation does not involve cognition. But this again is abstraction. The process by which he reaches this conclusion is a progressive paring away of the datum of perception until he arrives at a "visual pattern". This he says does not involve cognition. But if not, we have no right

to affirm it. There is no recognition without cognition and the minimum datum with which any analysis of mind must begin is the presentation TO SOMEONE. The mind is active, moreover, from beginning to end.

Again, if sensations furnish us with immediate knowledge of the real world, then secondary qualities must be real. The distinction is not drawn by Russell between existence and reality. To account for error by the degree of correlation possible is to presuppose that the problem has been solved.

Sensations differ from images only as regards causation, says Russell. While this may be true, it is hardly an explanation in view of the fact that causal laws are but generalizations of what is observed. To wave a verbal wand, such as "causal laws" over such a problem does not bridge the gap. Moreover, sensations, according to Russell himself, are the theoretical cores of perceptions and so never occur alone. The status of sensations is on the whole left vague and confused throughout.

We conclude, therefore, that Russell's theory of mind breaks down internally and fails to account for the facts of experience. It makes mind a passive recepticle and leads to complete skepticism. Russell omits to discuss attention. which, is a fatal weakness in his theory. Failure to recognize that the objects of perception are the response of the mind to given stimuli, dogmatic adherence to a theory, has vitiated most of Russell's epistemology.

In our consideration of Russell's theory of memory, we did not write at length because the discussion was purely verbalism. To say that images accompanied by a "belief-feeling" and the "feeling of pastness" is to say absolutely nothing. This is a vital weakness in Russell. The sin of scientific analysis when applied to philosophical problems is not so much what it has to say but what it ignores.

Russell's theory of introspection, or what he terms "self-observation", revealed that in introspection we are observing events in the mind that cannot be correlated with public events. But in perception we are doing the same thing. Therefore, we are reduced to solipsism. Moreover, how can there be self-observation when Russell has denied the self? He would not admit that there is any point to this however since the observation itself is an event in the mind. Russell escapes this difficulty, however, by putting the question "Would a theoretically complete knowledge explain thought?" which he answers in the negative. Therefore, Russell concludes, thought is real and we do think. The subtle shift of the question here evades the issue, namely, do we think, and if so, what kind of reality does thought have? Moreover, if Russell were consistent he would have to say that a complete knowledge of physics would explain thought, since he said that there is nothing in mind that makes it incapable of being a part of the world of matter.

This brought us to a brief discussion of the materialistic sympathies of Russell and we decided that he is vir-

tually a materialist in many respects. We found mechanistic and behavioristic explanations throughout his philosophy. But on the other hand, we found also, tendencies toward Berkleyian idealism.

Chapter Six

Russell's philosophy is mainly epistemological; or if this be not correct, it at least avoids metaphysics. It has a strain of empiricism in it; but it has also a strain of Platonism. Reality, according to Russell, consists in logical abstractions, such as "events", "particulars", and so forth. We found that there is no clear distinction between these various entities. The subtle, vague and elusive character of Russell's philosophy makes it difficult to tell just where he doesstand in any particular issue.

We took up first of all his theory of sense-perception. What Russell was here apparently trying to do was to show that on the basis of certain relatively undeniable data, sensations or sensa, we could, by a purely logical construction, reach a result that will show all the properties actually found in the experienced objects of perception. According to this theory the "thing" was the system of its appearances. Accordingly, we must conclude that error is as given as reality. This was our first criticism.

In the second place, these sensa, or, from the physical standpoint, events, were not sufficiently grounded. They came and went, apparently, like magic, with no reason or purpose. In fact, the metaphysical standing of these entities was nowhere made clear.

Taking up Russell's conception of cause, we found that although he disclaimed any interpretation except the scientific and deterministic interpretation, he did not escape the dynamic use of the category. To say that cause is but a generalization, leaves us philosophically helpless; our explanation degenerates into sterile tautology. A closed, logical, implicative system, is wholly incapable of dealing with change, growth, originality and free action. Reality cannot be put in a functional equation, however theoretical physics might profit by the arrangement. Russell coult not make headway without assuming efficient causation. It is implied in his theory of sense-perception and in his philosophy generally.

We saw that a scientific conception of cause breaks down internally by reason of the fact that it is no explanation, but simply verbalism. The facts of experience would not even be possible; we should end in Nihilism. This led us to say a few words about the ground of Russell's system. Russell has a sort of "hypnotized phenomenalism", to use a phrase of Knudson's. He denies "system" only to create one of his own. He denies substance only to make magically sustained "events" the ultimate reality. Logically we are left with a Heraclitic flux; but Russell does not draw such conclusions. Russell assumes some basis in eternal fact; but denies substance.

We then considered briefly the doctrine of neutral monism as a metaphysical theory, or, better, a "phenomenological" theory. We found it to be a verbal solution of the

mind and matter problem. Either mind must play the predominating role or else all must be reduced to terms of matter. There is no straddling the fence possible. To attenuate experience until we have nothing left but denatured and logical abstractions is, of course, one way of building a monistic system; but who shall say that it has any relation whatever to reality? With sufficient logical ingenuity we could build a dozen such systems, all self-consistent; but what would it prove or solve? The monism at which Russell arrives is a barren and formal monism, a purely mechanical togetherness, like a basket-full of potatoes. There can be no true monism, as Kundson says somewhere, outside a thoroughgoing personalism. It is only in the self and self-experience that we find any sort of a clue to the paradoxes and enigmas of philosophy.

Chapter Seven

Russell's philosophy is vitiated at the outset by his very conception of the nature and purpose of philosophy. For us philosophy, while it dare not be illogical, must substantiate and rationalize our fundamental human beliefs and needs. There is no such divorce between human value and truth as Russell would have us believe. Abstraction, we hold to be valuable in increasing knowledge, but it is not to be mistaken for concrete reality. The real is the particular and the concrete, not the abstract and general. Science cannot be metaphysically interpreted without doing

violence to the facts of experience and robbing us of what is most valuable in life.

In limiting philosophical speculation to what can be reduced to logical form, Russell rules out all human value, feeling, belief and religious aspiration. Science is science and philosophy is philosophy. The qualitative differences, which we experience, cannot be reduced to quantitative differences without abstracting the qualities. A purely formal logic claims to tell the truth about all possible worlds, but in the attempt it tells us nothing of any great value about any world. The doctrine of external relations rules out whatever is individual, personal, living and is something in and for itself. Logical atomism is adequate for a logical system built in the first place to conform to such a conception; but its only significance is in furnishing mental exercise. As a matter of fact, all the conclusions that Russell arrives at in his logical system are inherent in the premises and, on inspection, much of what he has to say is dogmatic on this account.

It is only when we assume the superiority of logic that we can follow Russell. But logic cannot prove its own right to first place.

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